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**APPENDIX K1: TRAFFIC IMPACT ASSESSMENT**

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# BLOOMINGTON BUSINESS PARK SPECIFIC PLAN

TRAFFIC IMPACT ANALYSIS  
TRSTY-2020-00026

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## 1 EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential transportation-related impacts of the proposed Bloomington Business Park Specific Plan (SP; proposed SP). The proposed SP is the redevelopment of the approximately 213-acre Specific Plan Area, located south of Santa Ana Avenue, west of Linden Avenue, north of Jurupa Avenue, and east of Alder Avenue in the unincorporated area of Bloomington. The SP site is currently occupied by residential homes, nurseries, and a church. The SP would develop up to 3,235,836 square feet (sf) of industrial uses over three phases. Phase 1 and 2 comprises the Opening Year Development of Planning Area A Option 1 (OY 1; proposed OY 1), which includes a 383,000sf fulfillment center (Building 1/Site 1) and 1,251,640sf High-Cube Warehouse (Building 2/Site 2) for Phase 1, and a 479,000sf fulfillment center (Building 3/Site 3) and ancillary truck parking area (Site 4) for Phase 2. Phase 3 does not have any planned development at this time, therefore a split of 598,400sf of future fulfillment center use and 523,793sf of industrial park will be analyzed to account for the maximum FAR possible for the SP.

An Opening Year Development Option 2 (OY 2) was also analyzed as an alternative to the proposed OY 1. This would have the same phasing timeline as the OY 1, which includes a 710,400sf fulfillment center (Building 1, Site 1, 36.65 acres) and 1,251,640sf High-Cube Warehouse (Building 2, Site 2, 57.60 acres) for Phase 1, and a 750,000sf fulfillment center (Building 3, Site 3, 37.66 acres) and ancillary truck parking area (Site 4, 9.50 acres) for Phase 2. The total acres for the Maximum Reasonable Initial Development is 141.41 acres. The total SP acres and potential development square footage from full buildout (based on the floor area ratios) would remain the same.

For the purpose of this analysis, the impacts will be analyzed using the full SP impact, and a fair share for mitigation will be split from the total SP, OY 1 and OY 2. The proposed Total SP would generate approximately 8,555 new daily PCE trips which includes 621 new AM peak hour and 719 new PM peak hour PCE trips. The OY 1 would generate approximately 4,668 new daily PCE trips which includes 263 new AM peak hour and 335 new PM peak hour PCE trips. The OY 2 would generate approximately 6,315 new daily PCE trips which includes 355 new AM peak hour and 453 new PM peak hour PCE trips.

The following study area intersections were evaluated during the AM and PM peak hours, which are defined as the hours with the highest traffic volumes during the 6 AM to 9 AM and 3 PM to 6 PM peak commute periods.

1. Sierra Avenue/I-10 Ramps (50% City of Fontana, 50% Caltrans)
2. Sierra Avenue/Slover Avenue (100% City of Fontana)
3. Sierra Avenue/Technology Street (100% City of Fontana)
4. Sierra Avenue/Santa Ana Avenue (100% City of Fontana)
5. Laurel Avenue/Santa Ana Avenue (100% County of San Bernardino)
6. Locust Avenue/Santa Ana Avenue (100% County of San Bernardino)
7. Locust Avenue/Jurupa Avenue (50% County of San Bernardino, 50% City of Fontana)
8. Maple Avenue/Santa Ana Avenue (100% County of San Bernardino)
9. Maple Avenue/Jurupa Avenue (100% County of San Bernardino)

10. Linden Avenue/Jurupa Avenue (100% County of San Bernardino)
11. Cedar Avenue/I-10 WB Ramp (50% County of San Bernardino, 50% Caltrans)
12. Cedar Avenue/I-10 EB Ramp (50% County of San Bernardino, 50% Caltrans)
13. Cedar Avenue/Orange Street (100% County of San Bernardino)
14. Cedar Avenue/Slover Avenue (100% County of San Bernardino)
15. Cedar Avenue/Santa Ana Avenue (100% County of San Bernardino)
16. Cedar Avenue/Jurupa Avenue (100% County of San Bernardino)
17. Cedar Avenue/11<sup>th</sup> Street (100% County of San Bernardino)
18. Cedar Avenue/7<sup>th</sup> Street (100% County of San Bernardino)
19. Cedar Avenue/El Rivino Drive (100% City of Jurupa Valley)
20. Rubidoux Boulevard/Market Street (100% City of Jurupa Valley)
21. Agua Mansa Road/Market Street (100% City of Jurupa Valley)
22. Market Street/24<sup>th</sup> Street (100% City of Jurupa Valley)
23. Market Street/Rivera Street (100% City of Riverside)
24. Market Street/SR-60 WB Ramp (50% City of Riverside, 50% Caltrans)
25. Market Street/SR-60 EB Ramp (50% City of Riverside, 50% Caltrans)
26. Laurel Avenue/Driveway 1 (100% County of San Bernardino)
27. Laurel Avenue/Driveway 2 (100% County of San Bernardino)
28. Laurel Avenue/Driveway 3 (100% County of San Bernardino)
29. Locust Avenue/Driveway 4 (100% County of San Bernardino)
30. Locust Avenue/Driveway 5 (100% County of San Bernardino)
31. Locust Avenue/Driveway 6 (100% County of San Bernardino)
32. Driveway 7/Jurupa Avenue (50% County of San Bernardino, 50% City of Fontana)
33. Maple Avenue/Driveway 8 (100% County of San Bernardino)
34. Maple Avenue/Driveway 9 (100% County of San Bernardino)
35. Maple Avenue/Driveway 10 (100% County of San Bernardino)
36. Driveway 11/Jurupa Avenue (100% County of San Bernardino)
37. Linden Avenue/Driveway 12 (100% County of San Bernardino)
38. Linden Avenue/Driveway 13 (100% County of San Bernardino)

AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Condition
- Existing plus Total SP
- Opening Year Baseline
- Opening Year plus Total SP
- General Plan Buildout (Year 2040)
- General Plan Buildout (Year 2040) plus Total SP
- Baseline plus OY 1 for all impacted intersections
- Baseline plus OY 2 for all impacted intersections

### **Existing plus Specific Plan Intersection Analysis Results**

For the Existing plus Specific Plan analysis the following three intersections would have a significant impact with addition of the project.

- #6 – Locust Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)



- #7 – Locust Ave/Jurupa Ave (PM Peak Hour) (50% County of San Bernardino, 50% City of Fontana)
- #16 – Cedar Ave/Jurupa Ave (PM Peak Hour) (100% County of San Bernardino)

### **Opening Year plus Specific Plan Intersection Analysis Results**

For the Opening Year plus Specific Plan analysis, the following six intersections would have a significant impact with addition of the project.

- #6 – Locust Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)
- #7 - Locust Ave/Jurupa Ave (AM and PM Peak Hour) (50% County of San Bernardino, 50% City of Fontana)
- #10 – Linden Ave/Jurupa Ave (PM Peak Hour) (100% County of San Bernardino)
- #11 – Cedar Ave/I-10 WB Ramps (AM Peak Hour) (50% County of San Bernardino, 50% Caltrans)
- #14 – Cedar Ave/Slover Ave (PM Peak Hour) (100% County of San Bernardino)
- #16 – Cedar Ave/Jurupa Ave (AM and PM Peak Hour) (100% County of San Bernardino)
- #20 – Rubidoux Blvd/Market St (AM and PM Peak Hour) (100% City of Jurupa Valley)
- #22 – Market St/24<sup>th</sup> St (PM Peak Hour) (100% City of Jurupa Valley)

### **General Plan Buildout (Year 2040) plus Specific Plan Intersection Analysis Results**

In the General Plan Buildout (Year 2040) plus Specific Plan analysis the following 20 intersections would have a significant impact with addition of the project:

- #1 – Sierra Ave/I-10 WB Ramps (PM Peak Hour) (50% City of Fontana, 50% Caltrans)
- #2 – Sierra Ave/Slover Ave (PM Peak Hour) (100% City of Fontana)
- #4 – Sierra Ave/Santa Ana Ave (PM Peak Hour) (100% City of Fontana)
- #5 – Laurel Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)
- #6 – Locust Ave/Santa Ana Ave (AM and PM Peak Hour) (100% County of San Bernardino)
- #7 - Locust Ave/Jurupa Ave (PM Peak Hour) (50% County of San Bernardino, 50% City of Fontana)
- #8 – Maple Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)
- #9 – Maple Ave/Jurupa Ave (PM Peak Hour) (100% County of San Bernardino)
- #10 – Linden Ave/Jurupa Ave (PM Peak Hour) (100% County of San Bernardino)
- #11 – Cedar Ave/I-10 WB Ramps (PM Peak Hour) (50% County of San Bernardino, Caltrans)
- #12 – Cedar Ave/I-10 EB Ramps (PM Peak Hour) (50% County of San Bernardino, 50% Caltrans)
- #13 – Cedar Ave/Orange St (PM Peak Hour) (100% County of San Bernardino)
- #14 – Cedar Ave/Slover Ave (PM Peak Hour) (100% County of San Bernardino)
- #15 – Cedar Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)
- #16 – Cedar Ave/Jurupa Ave (AM and PM Peak Hour) (100% County of San Bernardino)
- #17 – Cedar Ave/11<sup>th</sup> St (PM Peak Hour) (100% County of San Bernardino)
- #18 – Cedar Ave/7<sup>th</sup> St (PM Peak Hour) (100% County of San Bernardino)

- #20 – Rubidoux Blvd/Market St (PM Peak Hour) (100% City of Jurupa Valley)
- #22 – Market St/24<sup>th</sup> St (PM Peak Hour) (100% City of Jurupa Valley)
- #25 – Market St/SR-60 EB Ramp (PM Peak Hour) (50% City of Riverside, 50% Caltrans)

In addition, the following driveways operate at LOS F in the 2040 plus Project Scenario:

- #29 – Locust Ave/Driveway 4 (PM Peak Hour) (100% County of San Bernardino)
- #31 – Locust Ave/Driveway 6 (PM Peak Hour) (100% County of San Bernardino)
- #32 – Driveway 7/Jurupa Ave (PM Peak Hour) (50% County of San Bernardino, 50% City of Fontana)

### Project Mitigation and Fair-Share Calculation

To mitigate the SP, OY 1, and OY 2 project impacts, the following improvements are recommended:

- #1 – Sierra Ave/I-10 WB Ramps (50% City of Fontana, 50% Caltrans): *Add 3<sup>rd</sup> eastbound left turn lane*
- #2 – Sierra Ave/Slover Ave (100% City of Fontana): *Convert eastbound right turn to eastbound thru-right*
- #4 – Sierra Ave/Santa Ana Ave (100% City of Fontana): *Convert northbound right turn to northbound thru-right*
- #5 – Laurel Ave/Santa Ana Ave (100% County of San Bernardino): *Add 2<sup>nd</sup> eastbound thru lane*
- #6 – Locust Ave/Santa Ana Ave (100% County of San Bernardino): *Add northbound left turn and eastbound thru lane*
- #7 – Locust Ave/Jurupa Ave (50% County of San Bernardino, 50% City of Fontana): *Add a Traffic Signal, southbound and westbound left turn lane*
- #8 – Maple Ave/Santa Ana Ave (100% County of San Bernardino): *Add 2<sup>nd</sup> eastbound thru lane*
- #9 – Maple Ave/Jurupa Ave (100% County of San Bernardino): *Add westbound thru lane and two stage gap acceptance*
- #10 – Linden Ave/Jurupa Ave (100% County of San Bernardino): *Convert eastbound right to shared eastbound thru-right lane*
- #11 – Cedar Ave/I-10 WB Ramps (50% County of San Bernardino, 50% Caltrans): *Convert a 3<sup>rd</sup> southbound thru to southbound thru-right and add northbound thru lane*
- #12 – Cedar Ave/I-10 EB Ramps (50% County of San Bernardino, 50% Caltrans): *Add eastbound right turn lane*
- #13 – Cedar Ave/Orange St (100% County of San Bernardino): *Change eastbound/westbound phasing to split phasing*
- #14 – Cedar Ave/Slover Ave (100% County of San Bernardino): *Add a 2<sup>nd</sup> eastbound left turn lane*
- #15 – Cedar Ave/Santa Ana Ave (100% County of San Bernardino): *Add eastbound and westbound left turn lane*
- #16 – Cedar Ave/Jurupa Ave (100% County of San Bernardino): *Add an eastbound left turn lane*

- #17 – Cedar Ave/11<sup>th</sup> St (100% County of San Bernardino): *Add an eastbound left turn lane*
- #18 – Cedar Ave/7<sup>th</sup> St (100% County of San Bernardino): *Add an eastbound left turn lane*
- #20 – Rubidoux Blvd/Market St (100% City of Jurupa Valley): *Add a 2<sup>nd</sup> southbound left turn lane*
- #22 – Market St/24<sup>th</sup> St (100% City of Jurupa Valley): *Add westbound left turn lane*
- #25 – Market St/SR-60 EB Ramp (Specific Plan project impact only) (50% City of Riverside, 50% Caltrans): *Add 2<sup>nd</sup> south bound left turn lane*
- #29 – Locust Ave/Driveway 4 (100% County of San Bernardino): *Add 2<sup>nd</sup> northbound and 2<sup>nd</sup> southbound thru lane*
- #31 – Locust Ave/Driveway 6 (100% County of San Bernardino): *Add 2<sup>nd</sup> northbound and 2<sup>nd</sup> southbound thru lane*
- #32 –Driveway 7/Jurupa Ave (50% County of San Bernardino, 50% City of Fontana): *Add 2<sup>nd</sup> eastbound and 2<sup>nd</sup> westbound thru lane*

Project impacts would be mitigated by payment of a fair-share of the planned improvements in the amount of \$1,535,473.70 for the SP, \$744,476.78 for the OY 1, and \$937,720.26 for the OY 2.

The California Manual of Uniform Traffic Control Devices (CA MUTCD) 2014 Revision 5 provides a total of eight types of signal warrant analyses to determine whether a traffic signal may be warranted at a given location. Warrant 3, Peak Hour was used based on the count data. By the project opening year, the total SP, OY 1, and OY 2 meet the signal warrant.

## 2 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential transportation-related impacts of the proposed Bloomington Business Park Specific Plan (SP; proposed SP). The TIA was prepared using methodologies and significance criteria consistent with the requirements of the San Bernardino Countywide Plan (also referred to herein as the General Plan, adopted October 2020) and applicable provisions of the California Environmental Quality Act (CEQA).

### 2.1 Project Description

The proposed Specific Plan (SP; proposed SP) is the redevelopment of the approximately 213-acre Specific Plan Area, located south of Santa Ana Avenue, west of Linden Avenue, north of Jurupa Avenue, and east of Alder Avenue in the unincorporated area of Bloomington. The SP site is currently occupied by residential homes, nurseries, and a church. The SP would develop up to 3,235,836 square feet (sf) of industrial uses over three phases. Phase 1 and 2 comprises the Opening Year Development of Planning Area A Option 1 (OY 1; proposed OY 1), which includes a 383,000sf fulfillment center (Building 1, Site 1) and 1,251,640sf High-Cube Warehouse (Building 2, Site 2) for Phase 1, and a 479,000sf fulfillment center (Building 3, Site 3) and ancillary truck parking area (Site 4) for Phase 2. Phase 3 does not have any planned development at this time, therefore a split of 598,400sf of future fulfillment center use and 523,793sf of industrial park will be analyzed to account for the maximum FAR possible for the SP. Table 1 shows the Phasing plan and land use breakdown.

**Table 1. Specific Plan Development Plan**

PD Area	Land (Acres)	Land Use	Operational Year	Proposed Development
Site 1	17.72	Fulfillment Center	2022	373,000 SF Warehouse
				10,000 SF Office
Site 2	57.60	High-Cube Warehouse	2022	1,231,640 SF Warehouse
				20,000 SF Office
Site 3	30.52	Fulfillment Center	2022	474,000 SF Warehouse
				5,000 SF Office
Site 4	9.5	Trailer Parking	2022	289 Truck Trailers Stalls
<b>Total</b>	<b>115.34 Acres</b>		<b>2022</b>	<b>2,113,640 SF</b>
Future Fulfillment Center		Fulfillment Center	2040	598,400 SF Warehouse
Future Industrial Park		Industrial Park	2040	523,796 SF Industrial Park
<b>Total Specific Plan</b>	<b>213 Acres</b>		<b>2040</b>	<b>3,235,836 SF</b>

An Opening Year Development Option 2 (OY 2) was also analyzed as an alternative to the proposed OY 1. OY 2 would have the 598,400SF of Future Fulfillment Center built by 2022, with

a 710,400sf fulfillment center (Building 1, Site 1, 36.65 acres) and 1,251,640sf High-Cube Warehouse (Building 2, Site 2, 57.60 acres) for Phase 1, and a 750,000sf fulfillment center (Building 3, Site 3, 37.66 acres) and ancillary truck parking area (Site 4, 9.50 acres) for Phase 2. The total acres for the OY 2 is 141.41 acres. The total SP acres and potential development square footage from full buildout (based on the floor area ratios) would remain the same.

**Table 2. Specific Plan Development Plan (Opening Year Development Option 2)**

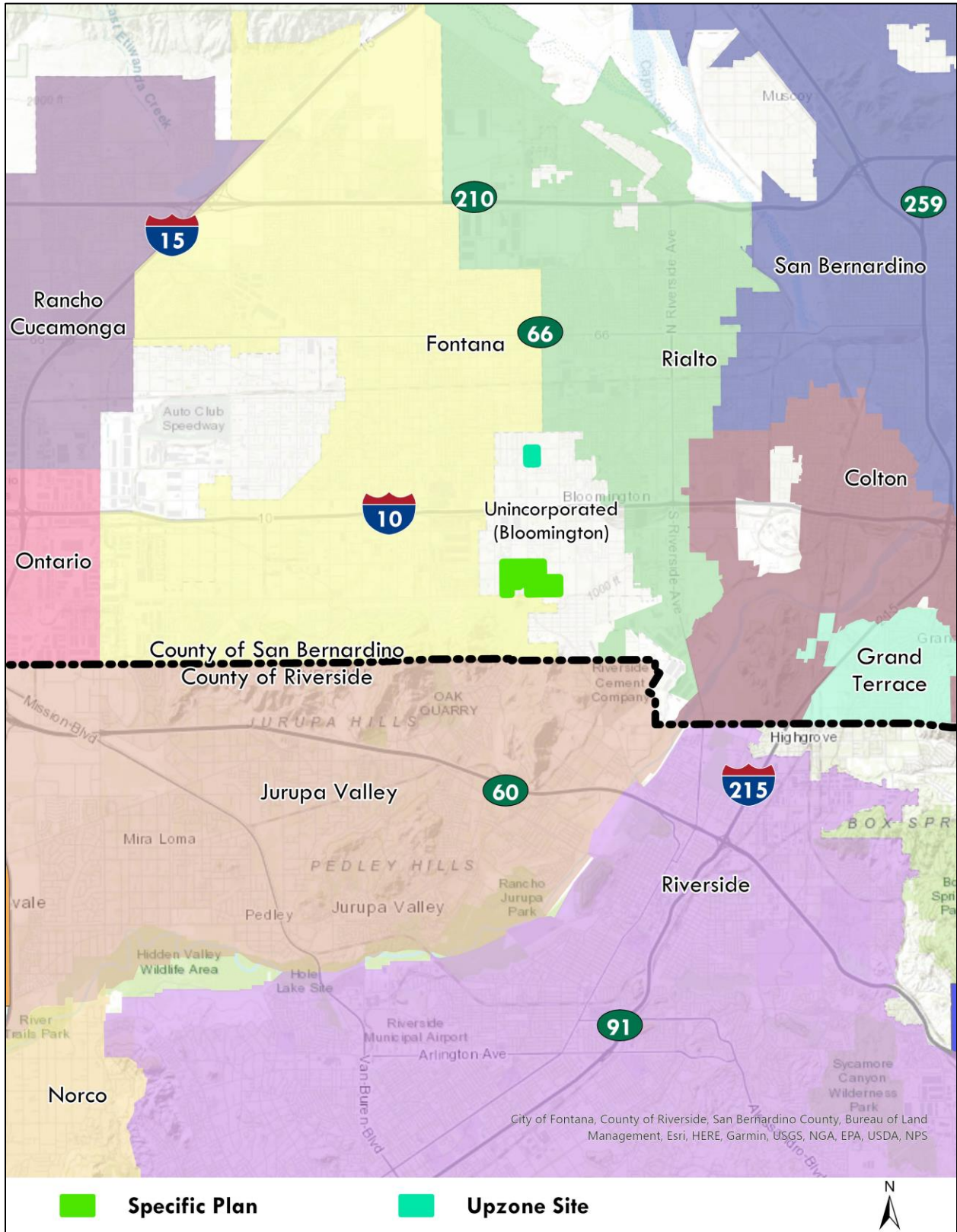
PD Area	Land (Acres)	Land Use	Operational Year	Proposed Development
Site 1	17.72	Fulfillment Center	2022	710,400 SF Warehouse
Site 2	57.60	High-Cube Warehouse	2022	1,231,640 SF Warehouse
Site 3	30.52	Fulfillment Center	2022	750,000 SF Warehouse
Site 4	9.5	Trailer Parking	2022	289 Truck Trailers Stalls
<b>Total</b>	<b>141.41 Acres</b>		<b>2022</b>	<b>2,113,640 SF</b>
Future Industrial Park		Industrial Park	2040	523,796 SF Industrial Park
<b>Total Specific Plan</b>	<b>213 Acres</b>		<b>2040</b>	<b>3,235,836 SF</b>

Access to the Specific Plan area site would be provided from driveways along Jurupa Avenue and Linden Avenue, and internal driveways along Laurel Avenue, Locust Avenue, and Maple Avenue will be accessed by Santa Ana Avenue or Jurupa Avenue (except for Laurel Avenue as it does not connect to Jurupa Ave). Truck access will be limited to Jurupa Avenue as only passenger vehicles will have access to Santa Ana Avenue.

The location of the SP is shown in Figure 1 - Project Location, and the SP/OY 1 site plan is shown in Figure 2 – Project (Specific Plan) Site Plan Opening Year Option 1. The OY 2 site plan can be found in Figure 3 – Project (Specific Plan Site Plan Opening Year Option 2).

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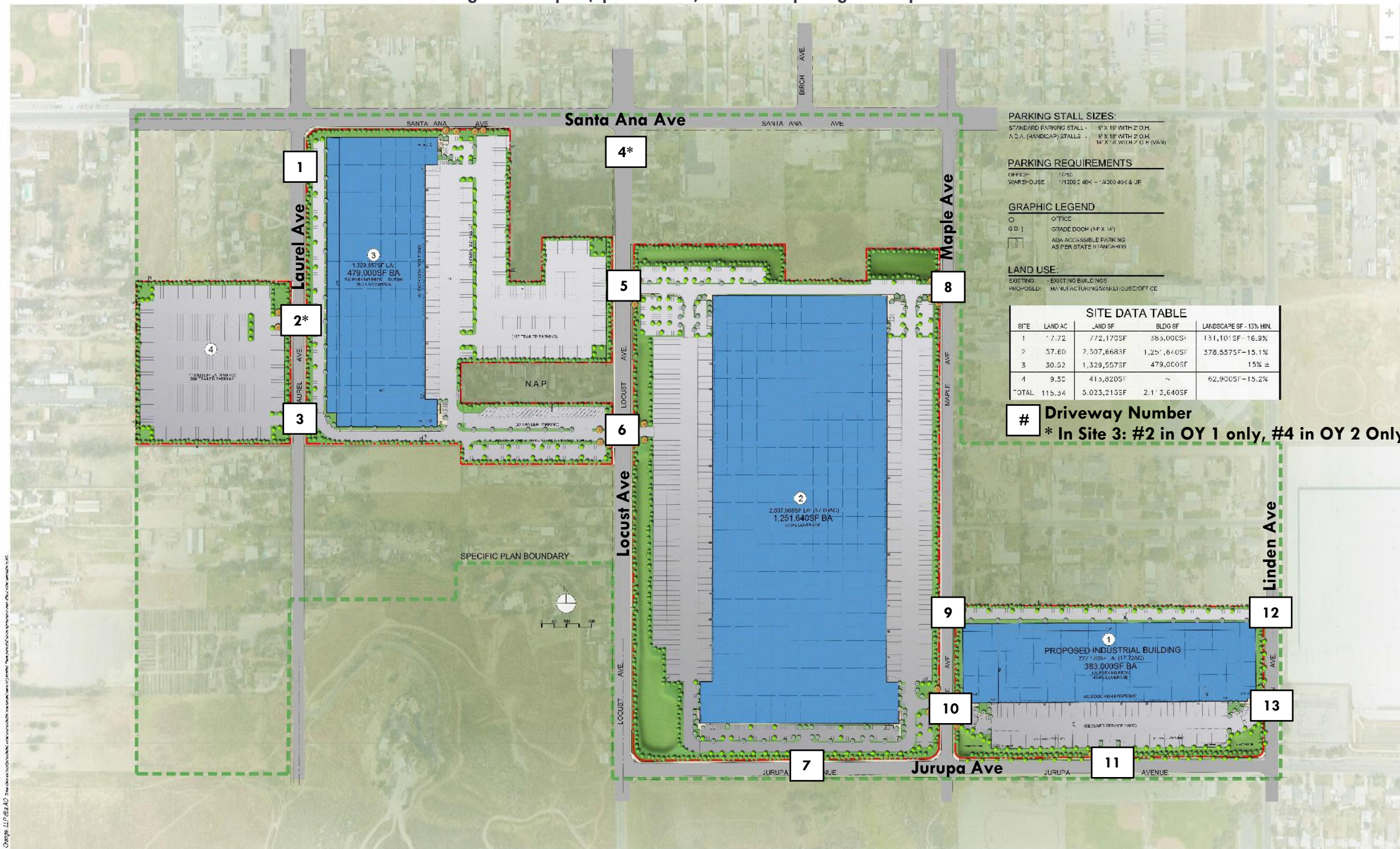
Figure 1: Project Location



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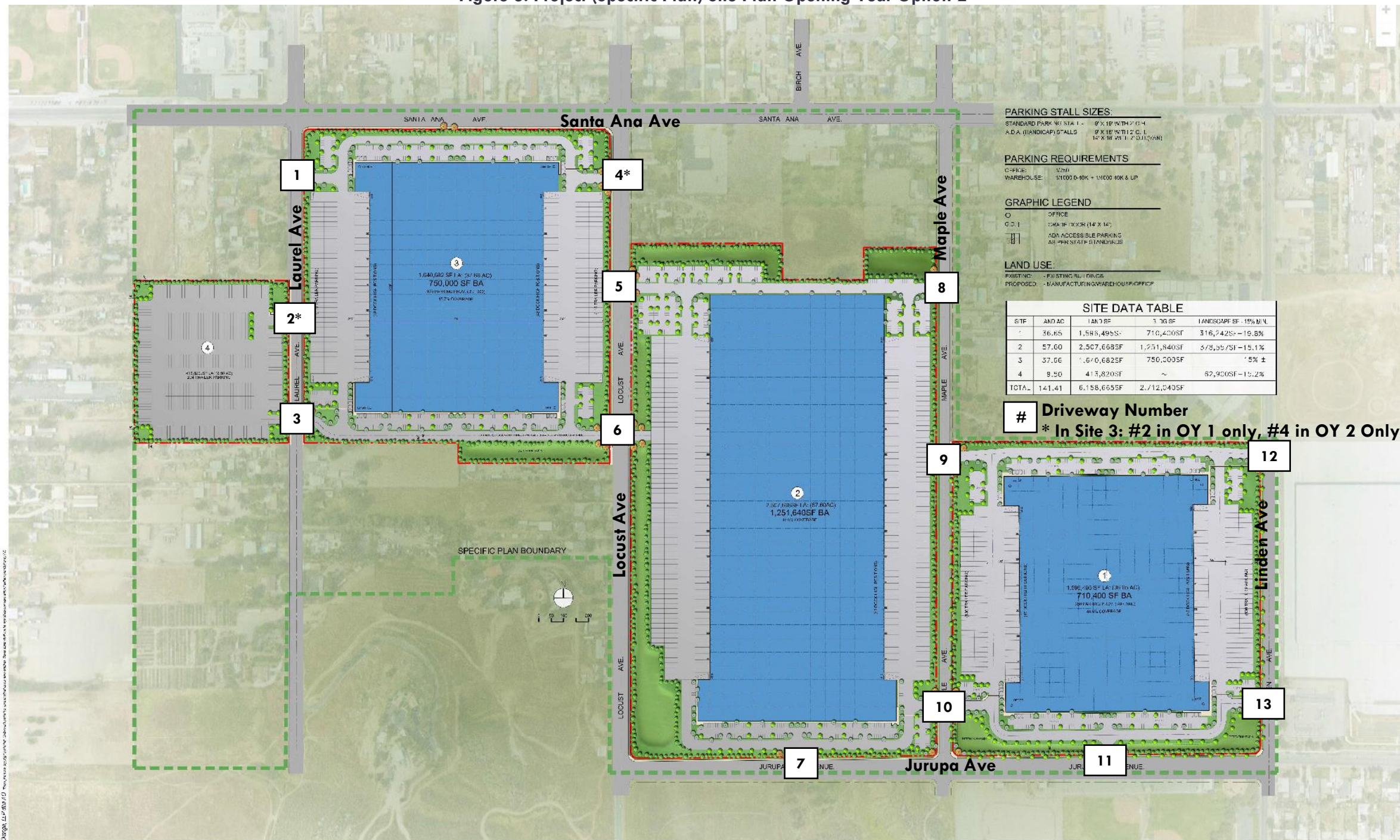
Figure 2: Project (Specific Plan) Site Plan Opening Year Option 1



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 ANY OTHER PURPOSES.

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Figure 3: Project (Specific Plan) Site Plan Opening Year Option 2



**PARKING STALL SIZES:**  
STANDARD PARKING STALL - 8' X 18' WITH 2' C-1  
A.D.A. (HANDICAP) STALLS - 8' X 18' WITH 12' C-1  
12' X 18' WITH 12' C-1 (2.0% SLOPE)

**PARKING REQUIREMENTS**  
OFFICE: 1:200  
WAREHOUSE: 1:1000 0-40K + 1:1000 40K & UP

**GRAPHIC LEGEND**  
O OFFICE  
C-1 1 12M X 18' (14' X 14')  
ADN ACCESSIBLE PARKING  
ADN PRN STALL SIGNATURES

**LAND USE:**  
EXISTING: - EXISTING ALL DRUGS  
PROPOSED: - MANUFACTURING/WAREHOUSE/OFFICE

ST#	AND AC	LAND SF	1:36 SF	LANDSCAPE SF - 15% MIN.
1	36.65	1,585,495SF	710,400SF	316,742SF - 19.8%
2	57.60	2,507,668SF	1,251,840SF	578,957SF - 15.1%
3	37.06	1,670,682SF	750,000SF	~ 5% ±
4	9.50	413,820SF	~	82,900SF - 15.2%
TOTA	141.41	6,158,655SF	2,712,040SF	

# Driveway Number  
\* In Site 3: #2 in OY 1 only, #4 in OY 2 Only

HOWARD | INDUSTRIAL PARTNERS  
 144 NORTH ORANGE STREET, ORANGE, CALIFORNIA 92666  
 TEL: 714.639.9660  
 WWW.HOWARDINDUSTRIALPARTNERS.COM

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**BLOOMINGTON BUSINESS PARK** BLOOMINGTON, CA

**Howard | Industrial Partners**

CONCEPTUAL MASTER PLAN 03-18-2021  
AO NO. 202-130-00

**SCHEME 2 ALT MP**

**AO** Architecture.  
Design.  
Relationships.

144 North Orange Street, Orange, California 92666  
714.639.9660  
aoarchitects.com

Scale 1"=150'  
Job No. 2020-130-00  
Date 10-01-2020

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## 2.2 Study Area and Analysis Scenarios

This TIA includes all signalized intersections where the project has the potential to add 50-trips or more. Based on this criterion, the following intersections were included in the analysis:

1. Sierra Avenue/I-10 Ramps (50% City of Fontana, 50% Caltrans)
2. Sierra Avenue/Slover Avenue (100% City of Fontana)
3. Sierra Avenue/Technology Street (100% City of Fontana)
4. Sierra Avenue/Santa Ana Avenue (100% City of Fontana)
5. Laurel Avenue/Santa Ana Avenue (100% County of San Bernardino)
6. Locust Avenue/Santa Ana Avenue (100% County of San Bernardino)
7. Locust Avenue/Jurupa Avenue (50% County of San Bernardino, 50% City of Fontana)
8. Maple Avenue/Santa Ana Avenue (100% County of San Bernardino)
9. Maple Avenue/Jurupa Avenue (100% County of San Bernardino)
10. Linden Avenue/Jurupa Avenue (100% County of San Bernardino)
11. Cedar Avenue/I-10 WB Ramp (50% County of San Bernardino, 50% Caltrans)
12. Cedar Avenue/I-10 EB Ramp (50% County of San Bernardino, 50% Caltrans)
13. Cedar Avenue/Orange Street (100% County of San Bernardino)
14. Cedar Avenue/Slover Avenue (100% County of San Bernardino)
15. Cedar Avenue/Santa Ana Avenue (100% County of San Bernardino)
16. Cedar Avenue/Jurupa Avenue (100% County of San Bernardino)
17. Cedar Avenue/11<sup>th</sup> Street (100% County of San Bernardino)
18. Cedar Avenue/7<sup>th</sup> Street (100% County of San Bernardino)
19. Cedar Avenue/El Rivino Drive (100% City of Jurupa Valley)
20. Rubidoux Boulevard/Market Street (100% City of Jurupa Valley)
21. Agua Mansa Road/Market Street (100% City of Jurupa Valley)
22. Market Street/24<sup>th</sup> Street (100% City of Jurupa Valley)
23. Market Street/Rivera Street (100% City of Riverside)
24. Market Street/SR-60 WB Ramp (50% City of Riverside, 50% Caltrans)
25. Market Street/SR-60 EB Ramp (50% City of Riverside, 50% Caltrans)
26. Laurel Avenue/Driveway 1 (100% County of San Bernardino)
27. Laurel Avenue/Driveway 2 (100% County of San Bernardino)
28. Laurel Avenue/Driveway 3 (100% County of San Bernardino)
29. Locust Avenue/Driveway 4 (100% County of San Bernardino)
30. Locust Avenue/Driveway 5 (100% County of San Bernardino)
31. Locust Avenue/Driveway 6 (100% County of San Bernardino)
32. Driveway 7/Jurupa Avenue (50% County of San Bernardino, 50% City of Fontana)
33. Maple Avenue/Driveway 8 (100% County of San Bernardino)
34. Maple Avenue/Driveway 9 (100% County of San Bernardino)
35. Maple Avenue/Driveway 10 (100% County of San Bernardino)
36. Driveway 11/Jurupa Avenue (100% County of San Bernardino)
37. Linden Avenue/Driveway 12 (100% County of San Bernardino)
38. Linden Avenue/Driveway 13 (100% County of San Bernardino)

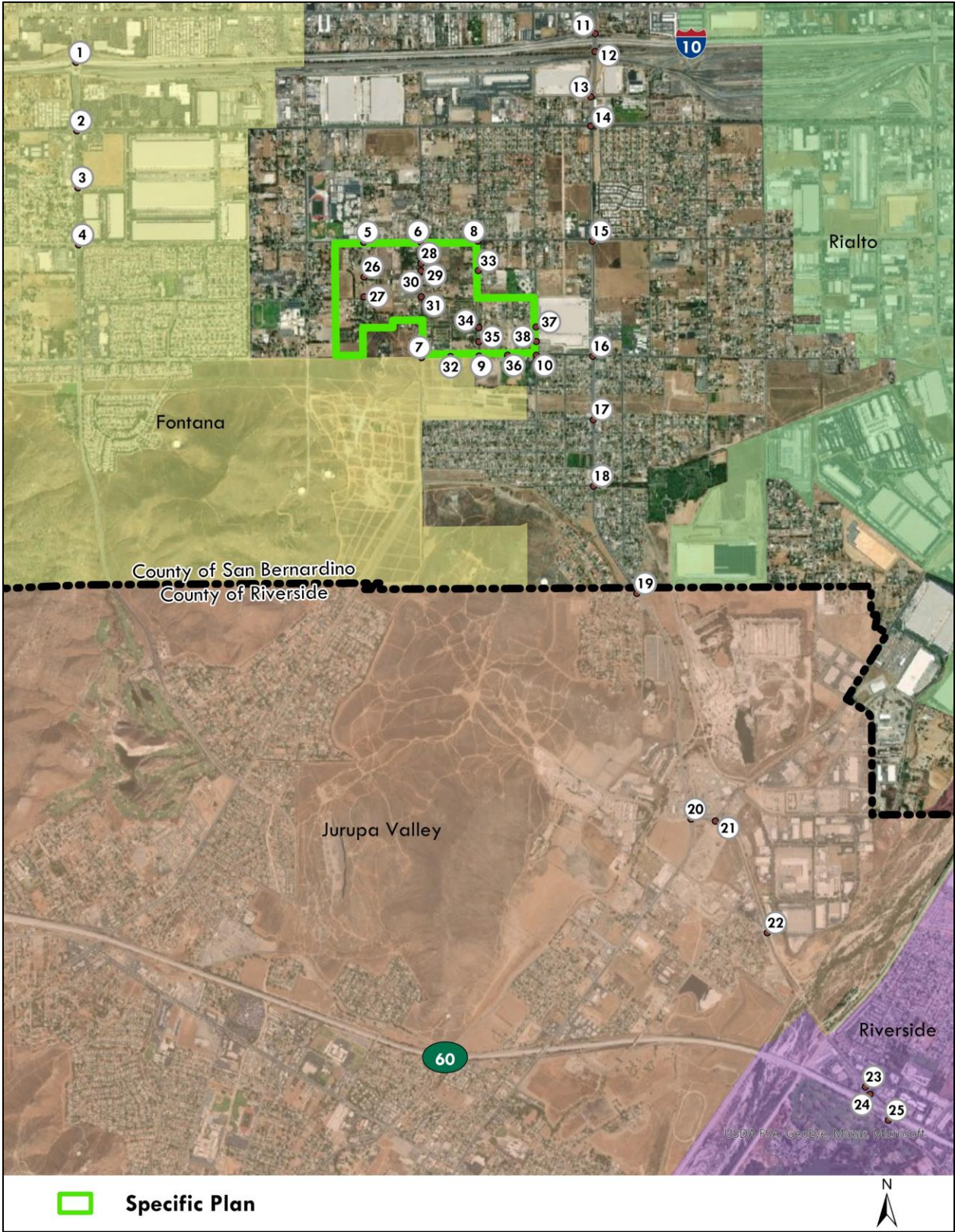
The locations of the study area intersections are shown on Figure 4 – Project Study Area.

Study area intersections were evaluated during the AM and PM peak hours, which are defined as the hour with the highest traffic volumes during the 6 AM to 9 AM and 3 PM to 6 PM peak commute periods. AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Condition
- Existing plus Total SP
- Opening Year Baseline
- Opening Year plus Total SP
- General Plan Buildout (Year 2040)
- General Plan Buildout (Year 2040) plus Total SP
- Baseline plus OY 1 for all impacted intersections
- Baseline plus OY 2 for all impacted intersections

Forecast traffic volumes for the Cumulative conditions were developed by taking counts and increasing the counts by a factor of 29% during the AM peak hour and 9% during the PM peak hour to account for the Covid-19 pandemic. The factor percentage was calculated comparing the counts taken in 2020 (during Covid-19) with counts taken prior to the Covid-19 pandemic. The Scoping Agreement with the County of San Bernardino can be found in Appendix A.

Figure 4: Project Study Area



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### 2.3 Methodology

Intersection operations are evaluated using Level of Service (LOS), which is a measure of the delay experienced by drivers on a roadway facility. LOS A indicates free-flow traffic conditions and is generally the best operating conditions. LOS F is an extremely congested condition and is the worst operating condition from the driver’s perspective. In this report, LOS at signalized and unsignalized intersections is calculated using the Highway Capacity Manual (HCM), 6<sup>th</sup> Edition methodology.

LOS at signalized intersections is defined in terms of the weighted average control delay for the intersection as a whole. Control delay is a measure of the increase in travel time that is experienced due to traffic signal control and is expressed in terms of average control delay per vehicle (in seconds). Control delay is determined based on the intersection geometry and volume, signal cycle length, phasing and coordination along the arterial corridor. Table 3 shows the relationship between control delay and LOS.

**Table 3. Relationship between Control Delay and LOS at a Signalized Intersection**

LOS	Delay (Seconds per Vehicle)
A	≤ 10
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	>80

Unsignalized intersections are categorized as either all-way stop control (AWSC) or two-way stop control (TWSC). LOS at AWSC intersections is determined by the weighted average control delay of the overall intersection. The HCM TWSC intersection methodology calculates LOS based on the delay experienced by drivers on the minor (stop-controlled) approaches to the intersection. For TWSC intersections, LOS is determined for each minor-street movement, as well as the major-street left-turns. The relationship between delay and LOS at Unsignalized intersections is shown in Table 4.

**Table 4. Relationship between Delay and LOS an Unsignalized Intersection**

LOS	Delay (seconds)
A	0-10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

Intersection signal and saturation requirements will be specified to the jurisdiction the intersection is under, deferring to the more conservative analysis method. These requirements were found in the County of San Bernardino, City of Fontana, City of Jurupa (County of Riverside), and City of Riverside respective transportation analysis guidelines.

## 2.4 Significance Criteria

### County of San Bernardino

The County of San Bernardino Traffic Impact Study Guidelines provides the following criteria for the determination of traffic impacts. It should be noted that the project is located in the Valley region.

#### Signalized Intersections

“Any study intersection that is operating at a LOS A, B, C or D for any study scenario without project traffic in which the addition of project traffic causes the intersection to degrade to a LOS E or F shall mitigate the impact to bring the intersection back to at least LOS D.

Any study intersection that is operating at a LOS E or F for any study scenario without project traffic shall mitigate any impacts so as to bring the intersection back to the overall level of delay established prior to project traffic being added.

For scenarios which include the addition of Cumulative Project Traffic (i.e. shared impacts), study intersections shall be mitigated to LOS D or better in the Valley and Mountain regions and LOS C or better in the Desert regions of the County.”

#### Unsignalized Intersections

“An impact is considered significant if the study determines that either section a) or both sections b) and c) occur.

- a) The addition of project related traffic causes the intersection to move from a LOS D or better to a LOS E or worse

OR

- b) The project contributes additional traffic to an intersection that is already projected to operate at an LOS E or F with background traffic

AND

- c) One or both of the following conditions are met:
  - 1) The project adds ten (10) or more trips to any approach
  - 2) The intersection meets the peak hour traffic signal warrant after the addition of project traffic”

“Once a significant impact has been identified, mitigation shall be provided as follows:

1. For scenarios involving project traffic but not Cumulative Project Traffic, the LOS shall be mitigated to either LOS D or better for case a) above or to pre-project LOS and delay for case b) above.
2. For scenarios that include Cumulative Project Traffic study intersections shall be mitigated to LOS D or better in the Valley and Mountain regions and LOS C or better in the Desert regions of the County.”

**City of Fontana**

The City of Fontana Traffic Impact Analysis Guidelines provides the following criteria for the determination of traffic impacts.

The City’s General Plan recommends a LOS standard of C, and intersections which are forecast to operate at unsatisfactory conditions shall be identified as cumulatively significant impacts. Table 5 below shows the thresholds that would cause an impact.

**Table 5. Thresholds of Significant Impact for Fontana Intersections**

With Project LOS	Significant Impact Threshold
A/B	+10.0 Seconds
C	+8.0 Seconds
D	+5.0 Seconds
E	+3.0 Seconds
F	+1.0 Seconds

**City of Jurupa Valley**

The City of Jurupa Valley General Plan defines the minimum acceptable intersection LOS as LOS D. Intersections which worsen from an acceptable LOS (D or better) to an unacceptable LOS (E or F) shall identify improvements to improve operations to LOS D or better. A project adds 3 or more seconds of delay to an intersection that already operates at an unacceptable LOS shall identify improvements to off-set the increase in delay.

**City of Riverside**

The City of Riverside Traffic Impact Analysis Preparation Guide provides the following criteria for the determination of traffic impacts.

The City’s General Plan recommends a LOS standard of D for roadways of Collector or higher classifications. LOS C is to be maintained on all street intersections. Table 6 below shows the thresholds that would cause an impact.

**Table 6. Thresholds of Significant Impact for Riverside Intersections**

With Project LOS	Significant Impact Threshold
A/B	+10.0 Seconds
C	+8.0 Seconds
D	+5.0 Seconds
E	+2.0 Seconds
F	+1.0 Seconds

**San Bernardino County Congestion Management Program (CMP)**

The San Bernardino County CMP sets a LOS standard of E for intersections or roadway segments on the CMP system of roadways. LOS E would apply as the standard at the following intersections:

1. Sierra Avenue/I-10 Ramps (50% City of Fontana, 50% Caltrans)
2. Sierra Avenue/Slover Avenue (100% City of Fontana)
11. Cedar Avenue/I-10 WB Ramp (50% County of San Bernardino, 50% Caltrans)
12. Cedar Avenue/I-10 EB Ramp (50% County of San Bernardino, 50% Caltrans)

**California Department of Transportation (Caltrans)**

The Caltrans *Guide for the Preparation of Traffic Impact Studies* (December 2002) required that State Highway facilities be analyzed when project traffic was added to the facility. These guidelines were superseded by the Caltrans *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* in May 2020. As noted in the updated guidelines, Caltrans is now focused on vehicle miles traveled (VMT) as a metric for transportation analysis and states the following: “With this guidance, the Department will transition away from requesting LOS or other vehicle operations analyses of land use projects”.

EPD prepared a VMT screening analysis using the screening criteria included in the County’s Transportation Impact Study guidelines. The project is located in two low-VMT generating traffic analysis zones (TAZ’s) and would therefore would not be required to prepare a VMT analysis, per the County’s screening threshold.

### 3 BASELINE CONDITIONS

This section discusses the baseline (without project) conditions. Baseline conditions are those conditions that exist within the study area in the existing condition and that are forecast to occur in the future, without the proposed project.

#### 3.1 Existing Transportation System

Access to the Specific Plan Area site would be provided from Jurupa Avenue and Linden Avenue, and internal driveways to the development sites along Laurel Avenue, Locust Avenue, and Maple Avenue. Truck access will be limited to Jurupa Avenue as only passenger vehicles have access to Santa Ana Avenue. Other major streets analyzed are Sierra Avenue, Cedar Avenue, Rubidoux Boulevard, and Market Street. Jurupa Avenue east of Maple Avenue and Cedar Avenue are classified as Major Highways, while Santa Ana Avenue is classified as Secondary Highway in the County of San Bernardino General Plan Circulation Element. Sierra Avenue is classified as a Major Highway, and Santa Ana Avenue and Jurupa Valley west of Maple are classified as Secondary Highways in the City of Fontana General Plan Community Mobility Circulation Element. Finally, Rubidoux Boulevard and Market Street are classified as Major Highways as per the City of Jurupa Valley General Plan Mobility Element. Cedar Avenue and Sierra Avenue are roadways designated in the Congestion Management Plan Road system. Table 7 Shows the roadway characteristics that are observed within the project study area.

**Table 7. Existing Roadway Characteristics within Study Area**

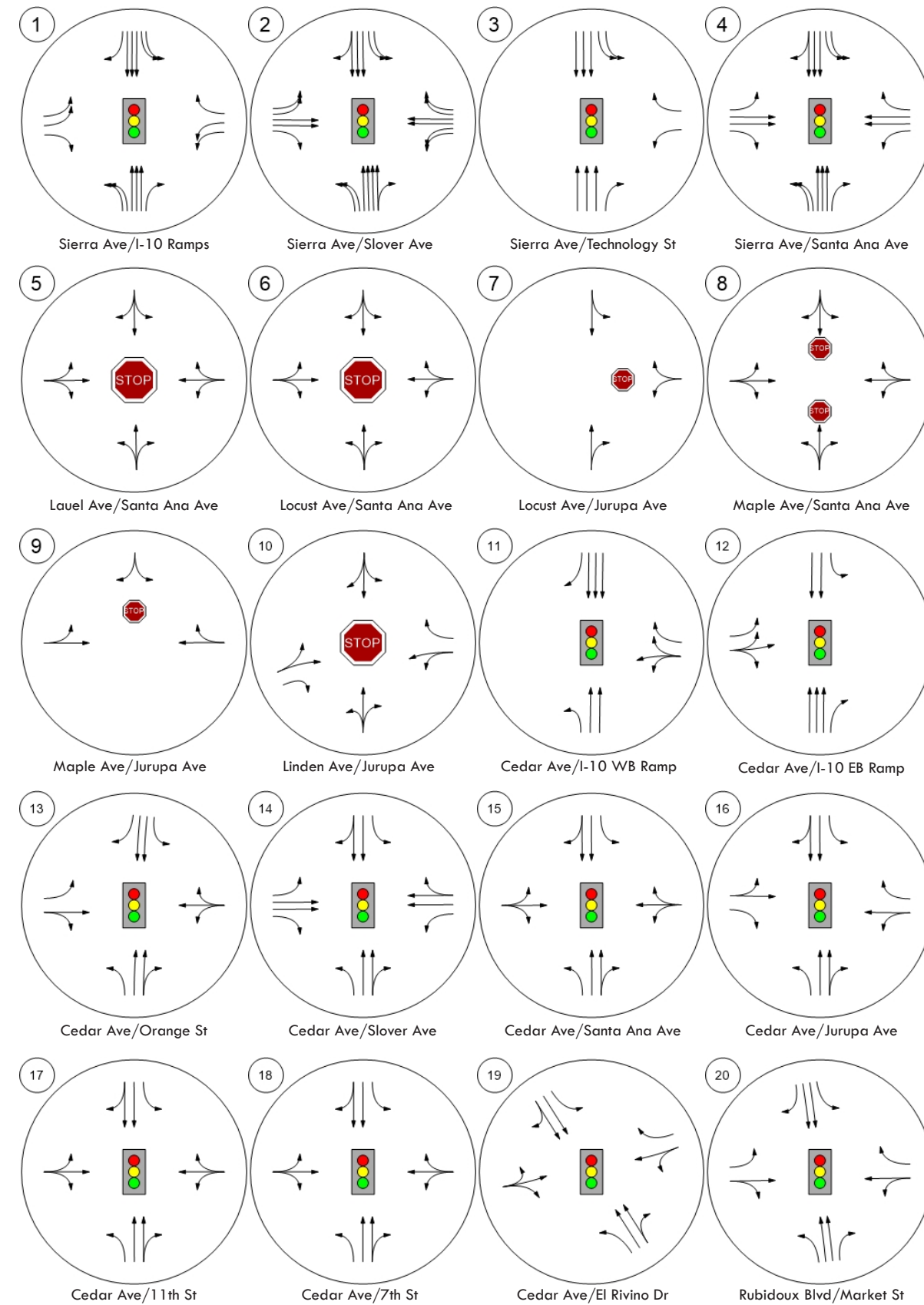
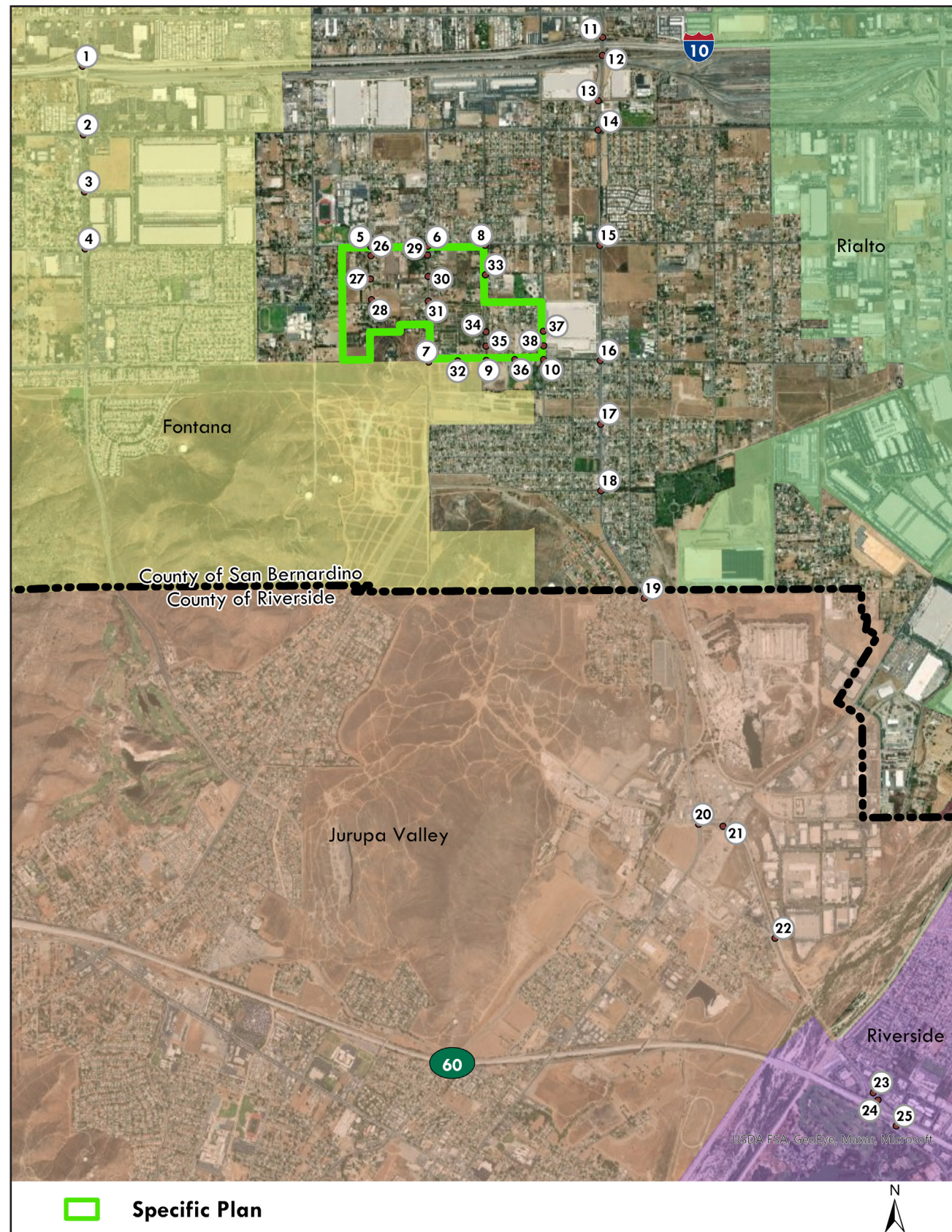
Roadway	Number of Lanes	Sidewalks?	Bike Lane?
Cedar Avenue (N/S)	4-Lane Divided. Solid median south of Slover Avenue, painted median north of Slover Avenue	West Side: Intermittently East Side: Yes north of Santa Ana Avenue, Intermittently south of Santa Ana Avenue	No
Santa Ana Avenue (E/W)	4-Lane Divided within City of Fontana, 2-Lane divided in County.	North Side: Yes within City of Fontana, Intermittently within County South Side No within County	No
Jurupa Avenue (E/W)	2-Lane Divided	North Side: Yes east of Linden Avenue South Side: No	No
Sierra Avenue (N/S)	7-Lane Divided north of Slover, 6-Lane Divided south of Slover	Yes	Yes on east side between Santa Ana Avenue and Technology Street
Rubidoux Boulevard (N/S)	4-Lane Divided	No	No
Market Street (N/S)	2-Lane Divided north of Rivera Street, 4-Lane Divided south of Rivera Street	West Side: No East Side: No North of Rivera Street, Yes South of Rivera Street	No

OmniTrans route 29 services the SP area and has stops along Slover Avenue, Laurel Avenue, Santa Ana Avenue, Locust Avenue, 11<sup>th</sup> Street, and Cedar Avenue.

The existing traffic control and intersection geometrics at study area intersections are shown in Figure 5.

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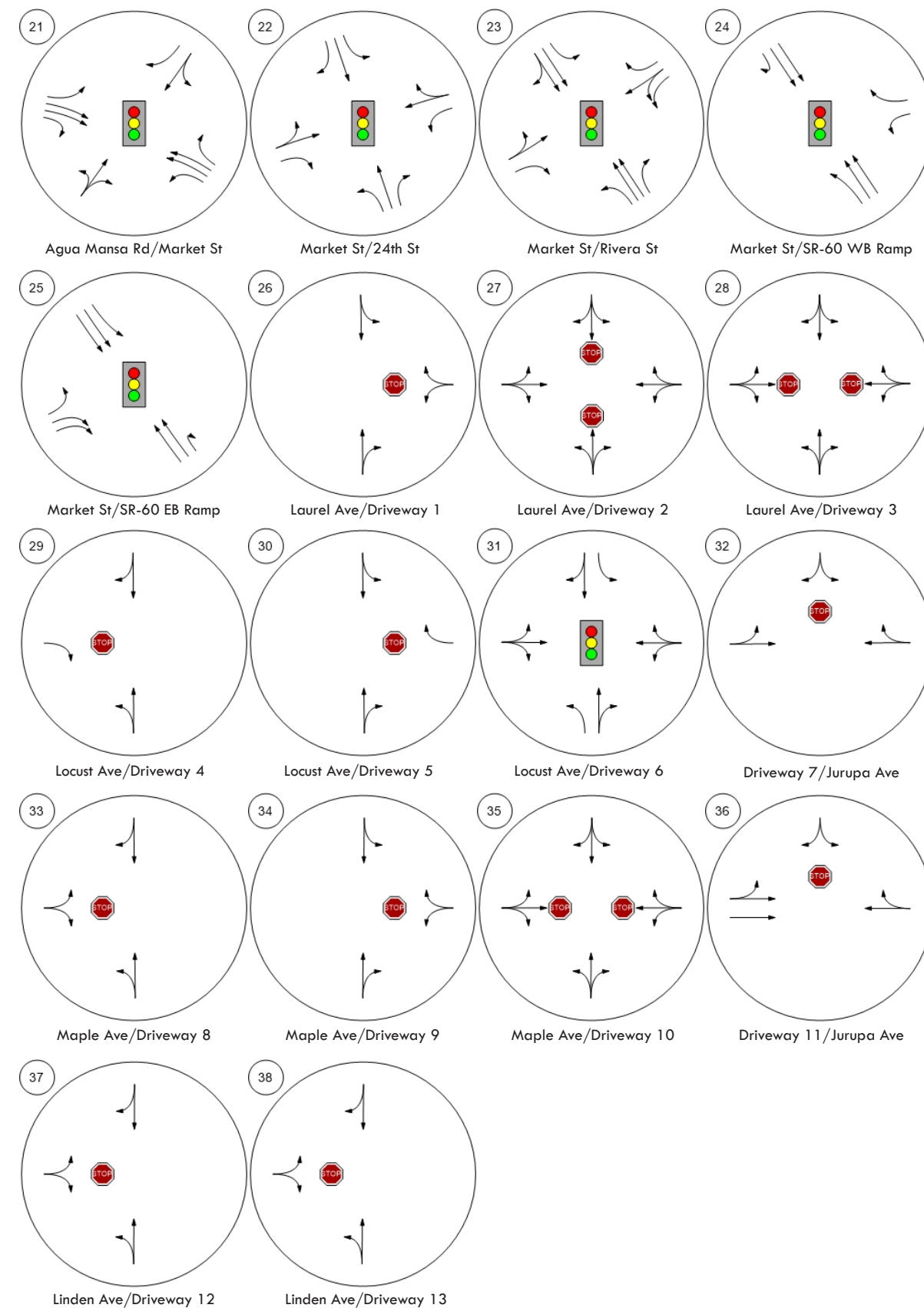
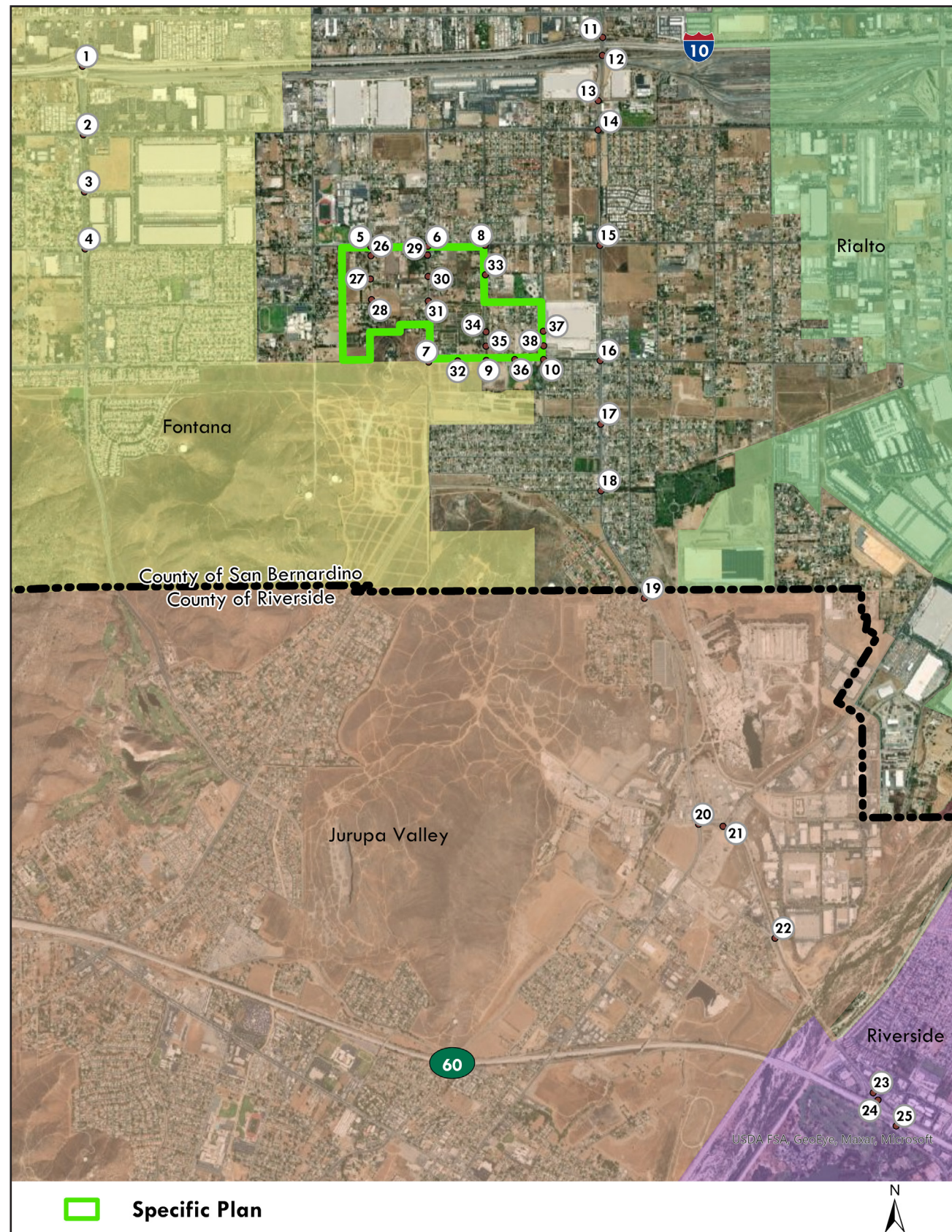
Figure 5a: Existing Traffic Control and Intersection Geometrics



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Figure 5b: Existing Traffic Control and Intersection Geometric



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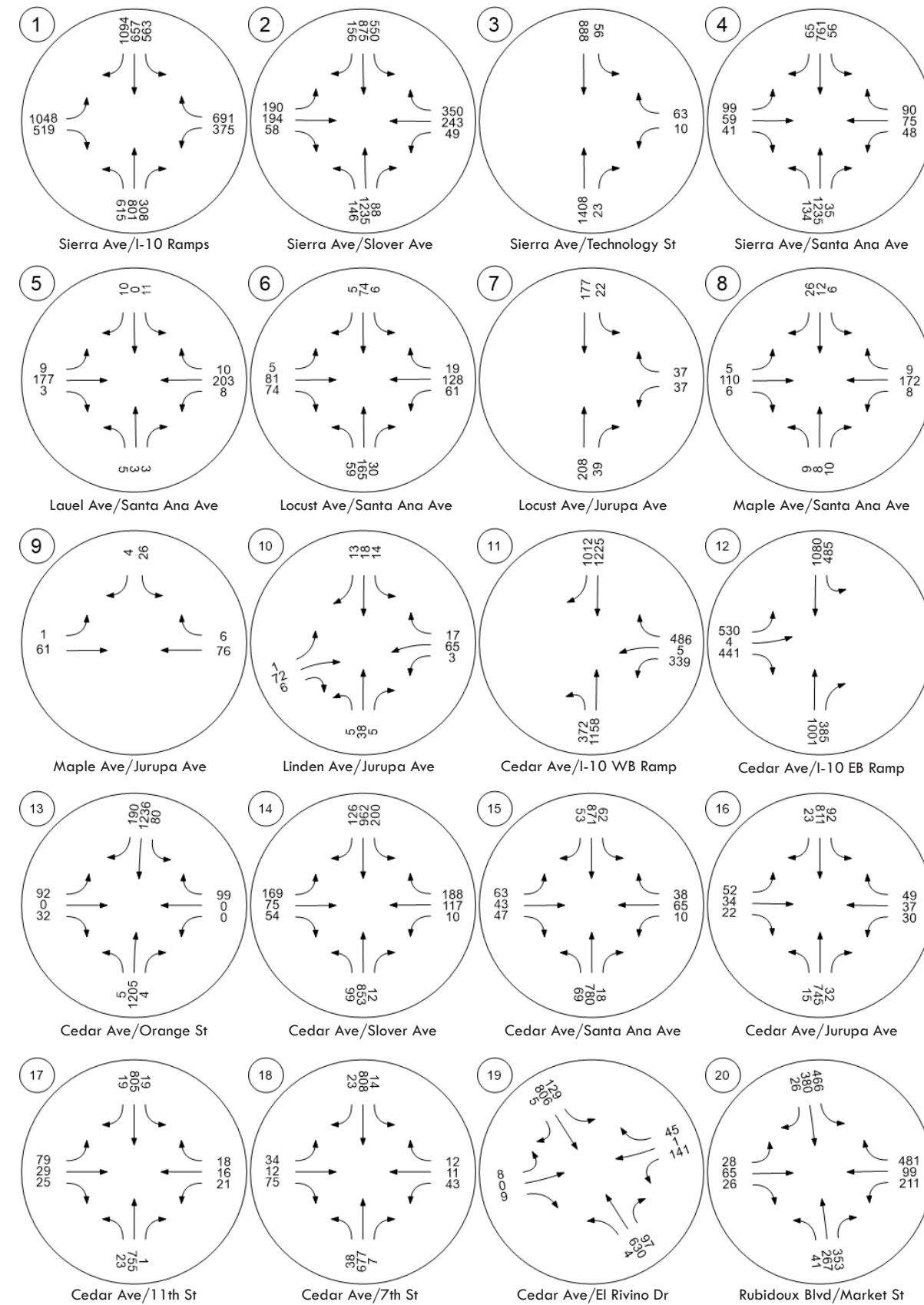
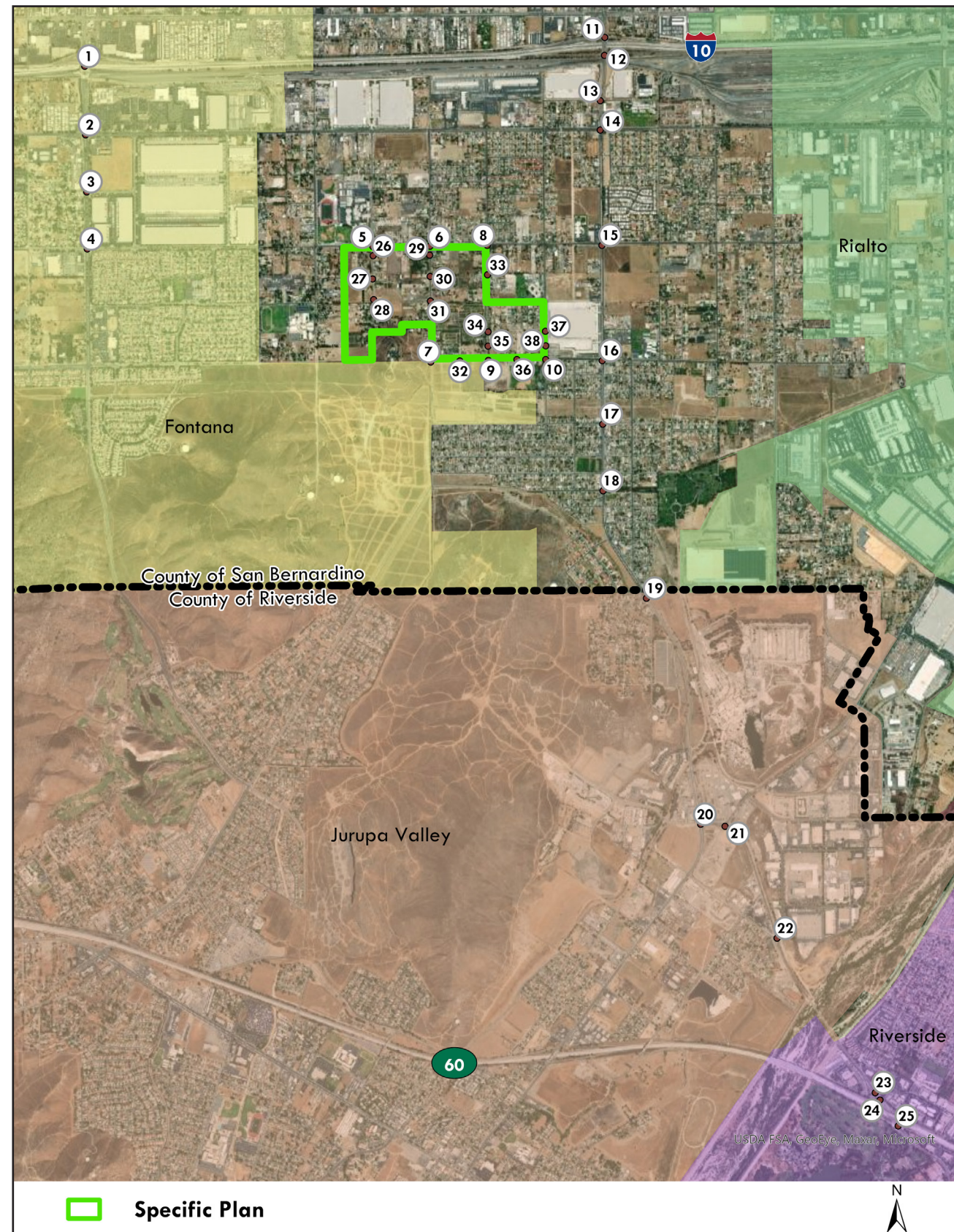
### 3.2 Existing Traffic Volumes and Intersection Operations

Existing AM and PM peak hour traffic volumes at the study area intersections are shown in Figures 6 and 7. The existing traffic volumes were collected on Tuesday, September 29<sup>th</sup>, 2020. Because many schools and business were closed due to the Covid-19 pandemic, the existing counts were adjusted to represent typical weekday traffic volumes. Adjustment factors were determined by examining traffic volumes at study area intersections from 2015, 2016, 2017 and 2019. The traffic counts were increased by 29% during the AM peak hour and 9% during the PM peak hour. All traffic count data and the calculation of the Covid-19 factor are provided in Appendix B.

The existing Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 8 shows the existing AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix C. As shown in Table 8, one of the study intersections, Locust Avenue/Santa Ana Avenue (100% County of San Bernardino), currently operates at LOS E during the PM peak hour.

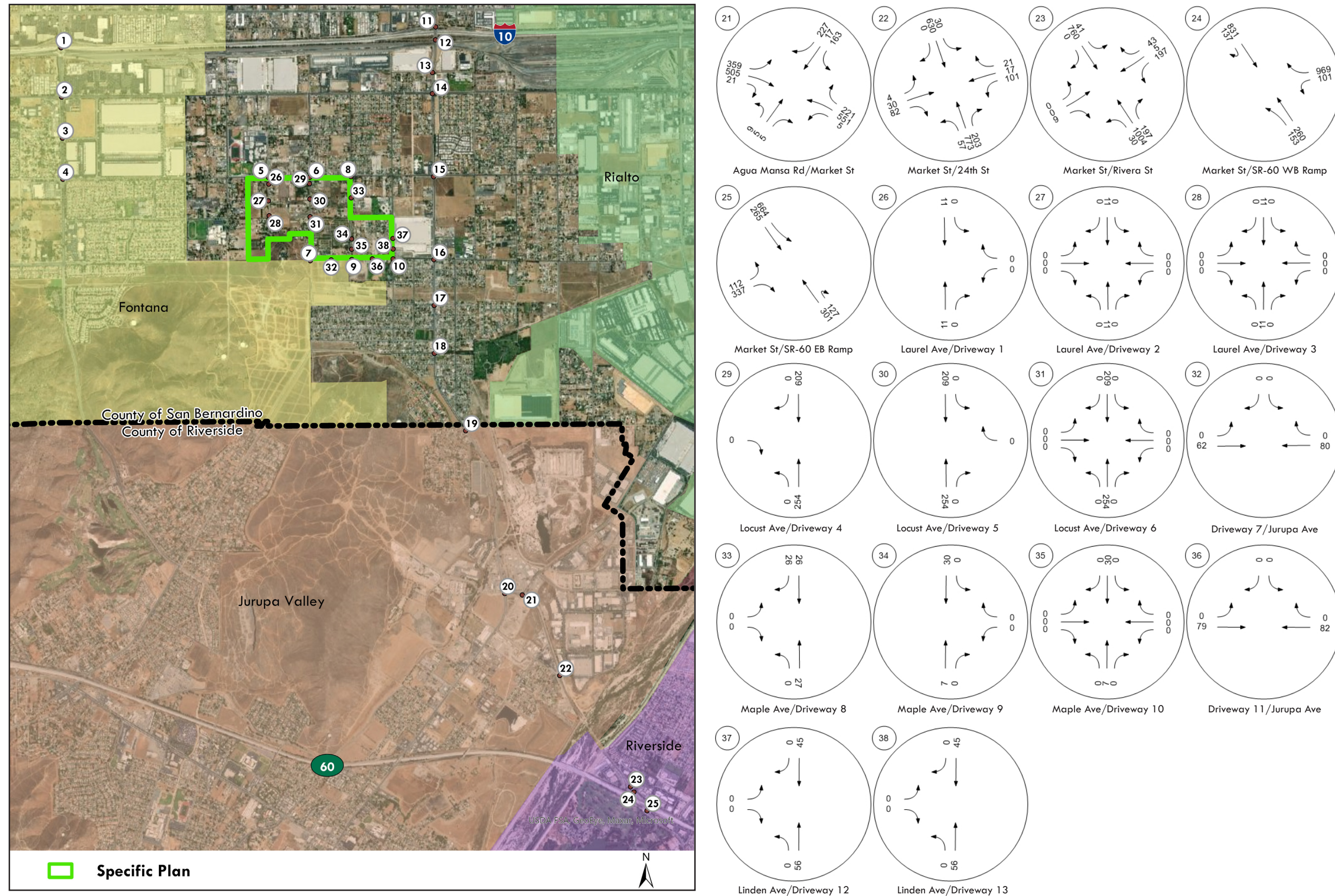
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Figure 6a: Existing AM Peak Hour Volumes



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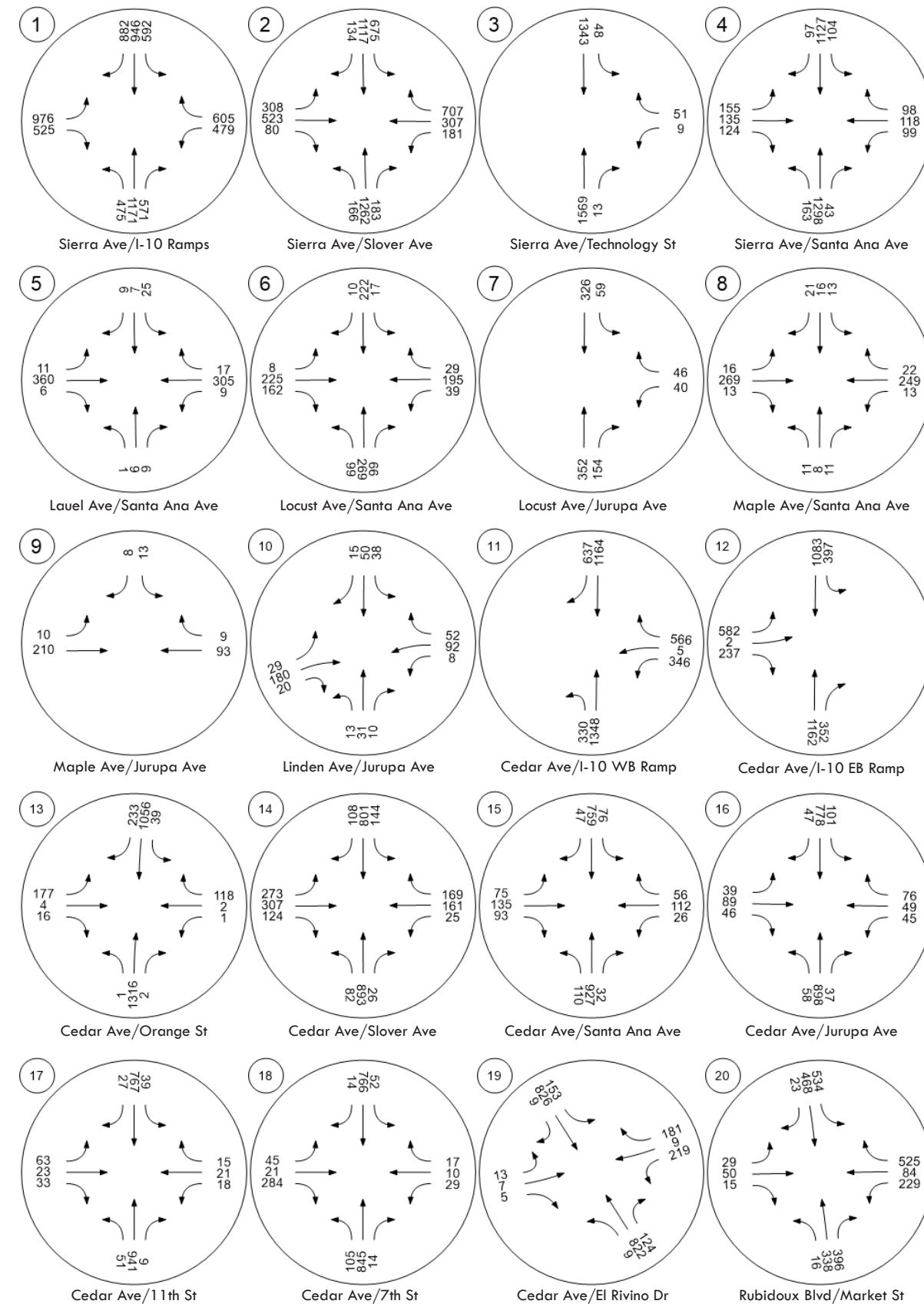
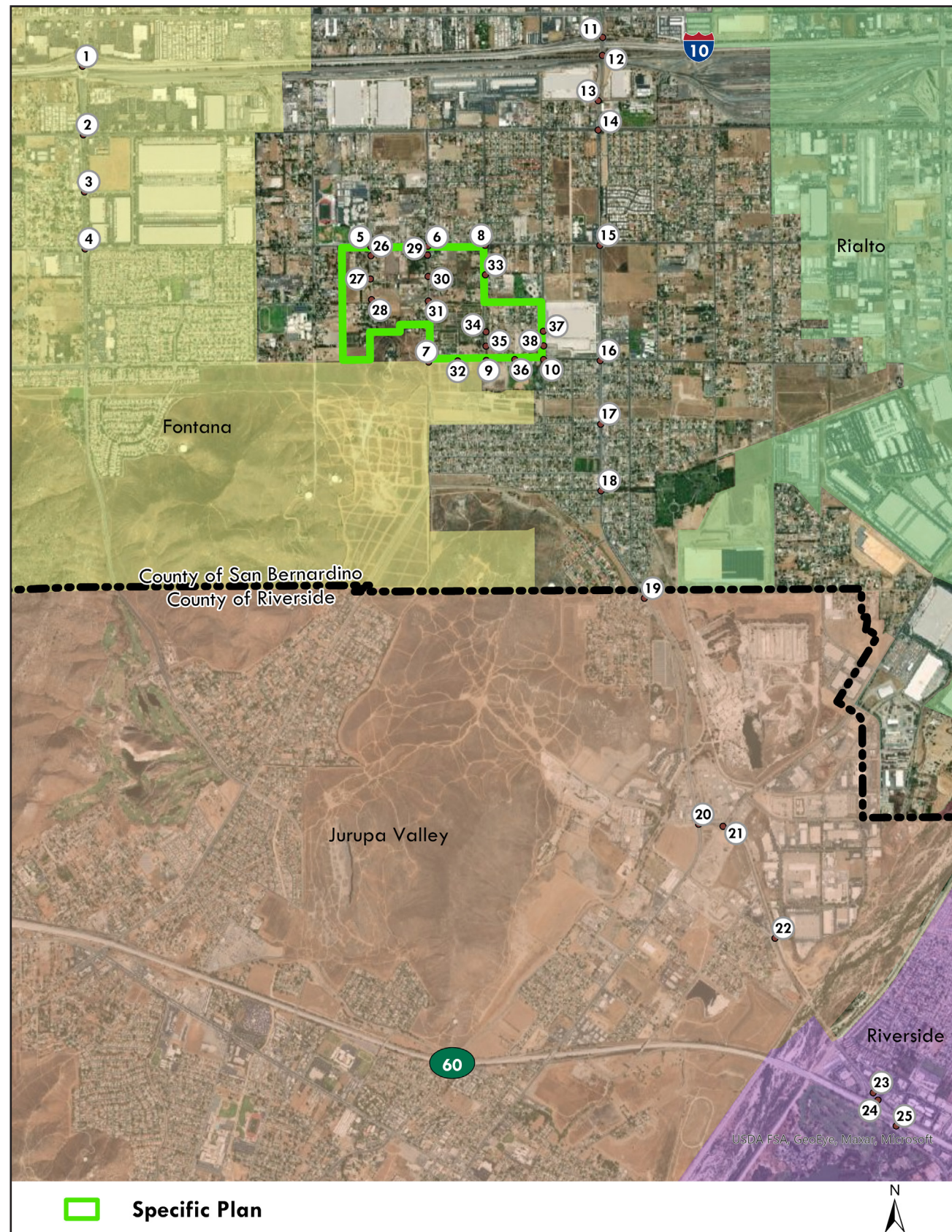
Figure 6b: Existing AM Peak Hour Volumes



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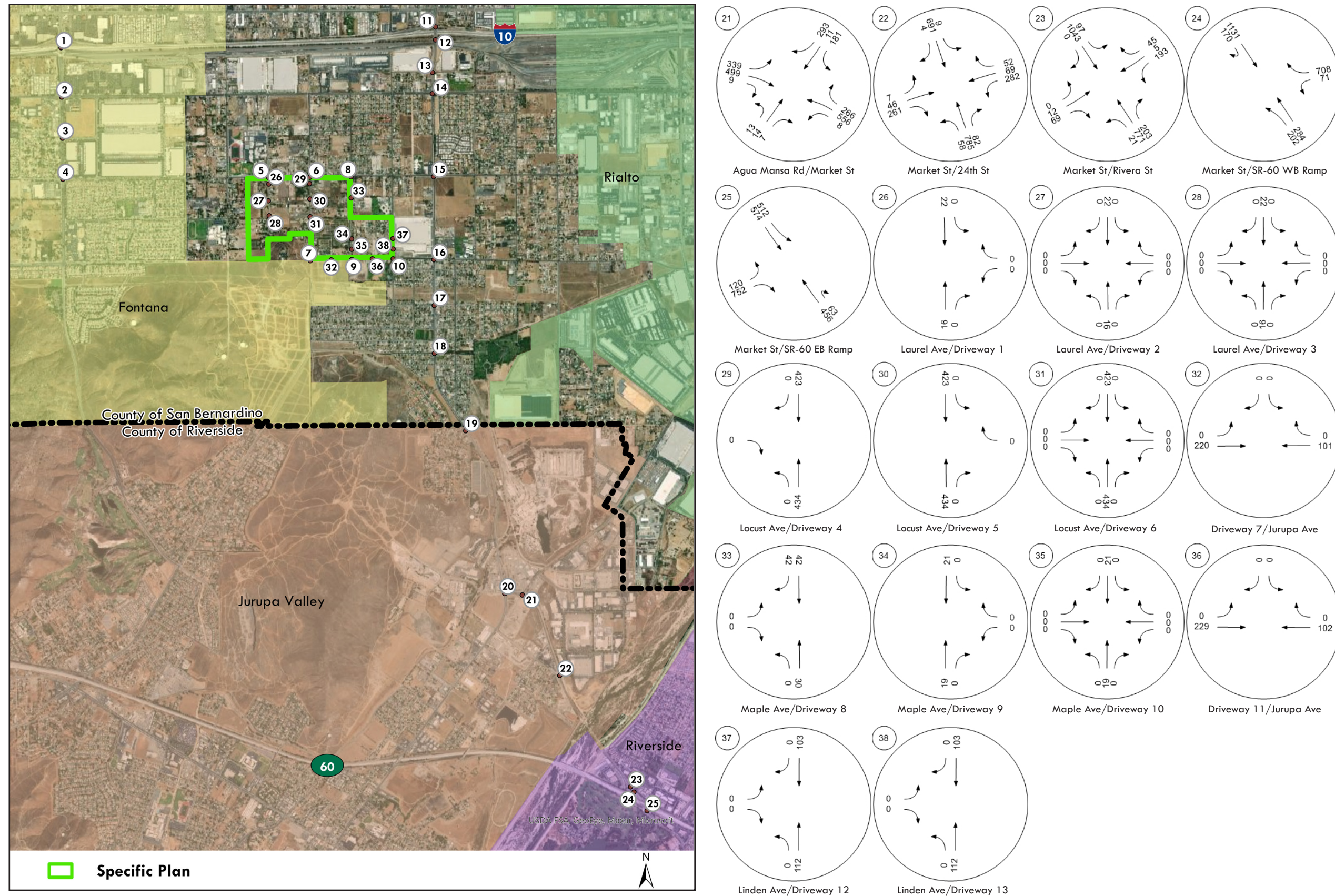


Figure 7a: Existing PM Peak Hour Volumes



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Figure 7b: Existing PM Peak Hour Volumes



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**Table 8. Existing AM and PM Peak Hour Levels of Service**

	Intersection	Location %	Signal Control	AM Peak		PM Peak	
				Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>
1.	Sierra Ave/I-10 Ramps (Existing)	50F/50C	Signal	35.9	D	33.0	C
2.	Sierra Ave/Slover Ave (Existing)	100 F	Signal	31.0	C	38.5	D
3.	Sierra Ave/Technology St (Existing)	100 F	Signal	4.5	A	3.7	A
4.	Sierra Ave/Santa Ana Ave (Existing)	100 F	Signal	16.3	B	19.9	B
5.	Laurel Ave/Santa Ana Ave (Existing)	100 SB	AWSC	8.8	A	11.0	B
6.	Locust Ave/Santa Ana Ave (Existing)	100 SB	AWSC	10.7	B	36.9	E
7.	Locust Ave/Jurupa Ave (Existing)	50SB/50F	TWSC	12.6	B	21.2	C
8.	Maple Ave/Santa Ana Ave (Existing)	100 SB	TWSC	11.5	B	15.8	C
9.	Maple Ave/Jurupa Ave (Existing)	100 SB	TWSC	9.8	A	10.8	B
10.	Linden Ave/Jurupa Ave (Existing)	100 SB	AWSC	7.9	A	9.1	A
11.	Cedar Ave/ I-10 WB Ramps (Existing)	50SB/50C	Signal	52.1	D	29.0	C
12.	Cedar Ave/ I-10 EB Ramps (Existing)	50SB/50C	Signal	35.3	D	24.6	C
13.	Cedar Ave/Orange Street (Existing)	100 SB	Signal	8.0	A	12.8	B
14.	Cedar Ave/Slover Ave (Existing)	100 SB	Signal	29.7	C	32.3	C
15.	Cedar Ave/Santa Ana Ave (Existing)	100 SB	Signal	10.9	B	16.6	B
16.	Cedar Ave/Jurupa Ave (Existing)	100 SB	Signal	16.1	B	24.3	C
17.	Cedar Ave/11th St (Existing)	100 SB	Signal	8.3	A	8.9	A
18.	Cedar Ave/7th St (Existing)	100 SB	Signal	7.8	A	15.4	B
19.	Cedar Ave/El Rivino Dr (Existing)	100 JV	Signal	12.3	B	18.9	B
20.	Rubidoux Blvd/Market St (Existing)	100 JV	Signal	36.2	D	42.4	D
21.	Agua Mansa Rd/Market St (Existing)	100 JV	Signal	24.6	C	23.5	C
22.	Market St/24th St (Existing)	100 JV	Signal	17.5	B	34.7	C
23.	Market St/Rivera St (Existing)	100 R	Signal	11.4	B	14.0	B
24.	Market St/SR-60 WB Ramp (Existing)	50R/50C	Signal	10.9	B	10.9	B
25.	Market St/SR-60 EB Ramp (Existing)	50R/50C	Signal	21.7	C	20.2	C
26.	Laurel Ave/Driveway 1 (Proposed)	100 SB	TWSC	-	-	-	-
27.	Laurel Ave/Driveway 2 (Proposed)	100 SB	TWSC	-	-	-	-
28.	Laurel Ave/Driveway 3 (Proposed)	100 SB	TWSC	-	-	-	-
29.	Locust Ave/Driveway 4 (Proposed)	100 SB	TWSC	-	-	-	-
30.	Locust Ave/Driveway 5 (Proposed)	100 SB	TWSC	-	-	-	-
31.	Locust Ave/Driveway 6 (Proposed)	100 SB	Signal	-	-	-	-
32.	Driveway 7/Jurupa Ave (Proposed)	50SB/50F	TWSC	-	-	-	-
33.	Maple Ave/Driveway 8 (Proposed)	100 SB	TWSC	-	-	-	-
34.	Maple Ave/Driveway 9 (Proposed)	100 SB	TWSC	-	-	-	-
35.	Maple Ave/Driveway 10 (Proposed)	100 SB	TWSC	-	-	-	-
36.	Driveway 11/Jurupa Ave (Proposed)	100 SB	TWSC	-	-	-	-
37.	Linden Ave/Driveway 12 (Proposed)	100 SB	TWSC	-	-	-	-
38.	Linden Ave/Driveway 13 (Proposed)	100 SB	TWSC	-	-	-	-

■ = Unsatisfactory Level of Service    TWSC = Two-Way Stop Controlled    AWSC = Two-Way Stop Controlled

- F Fontana
- C Caltrans
- SB San Bernardino
- JV Jurupa Valley
- R Riverside

<sup>1</sup> Delay in Seconds

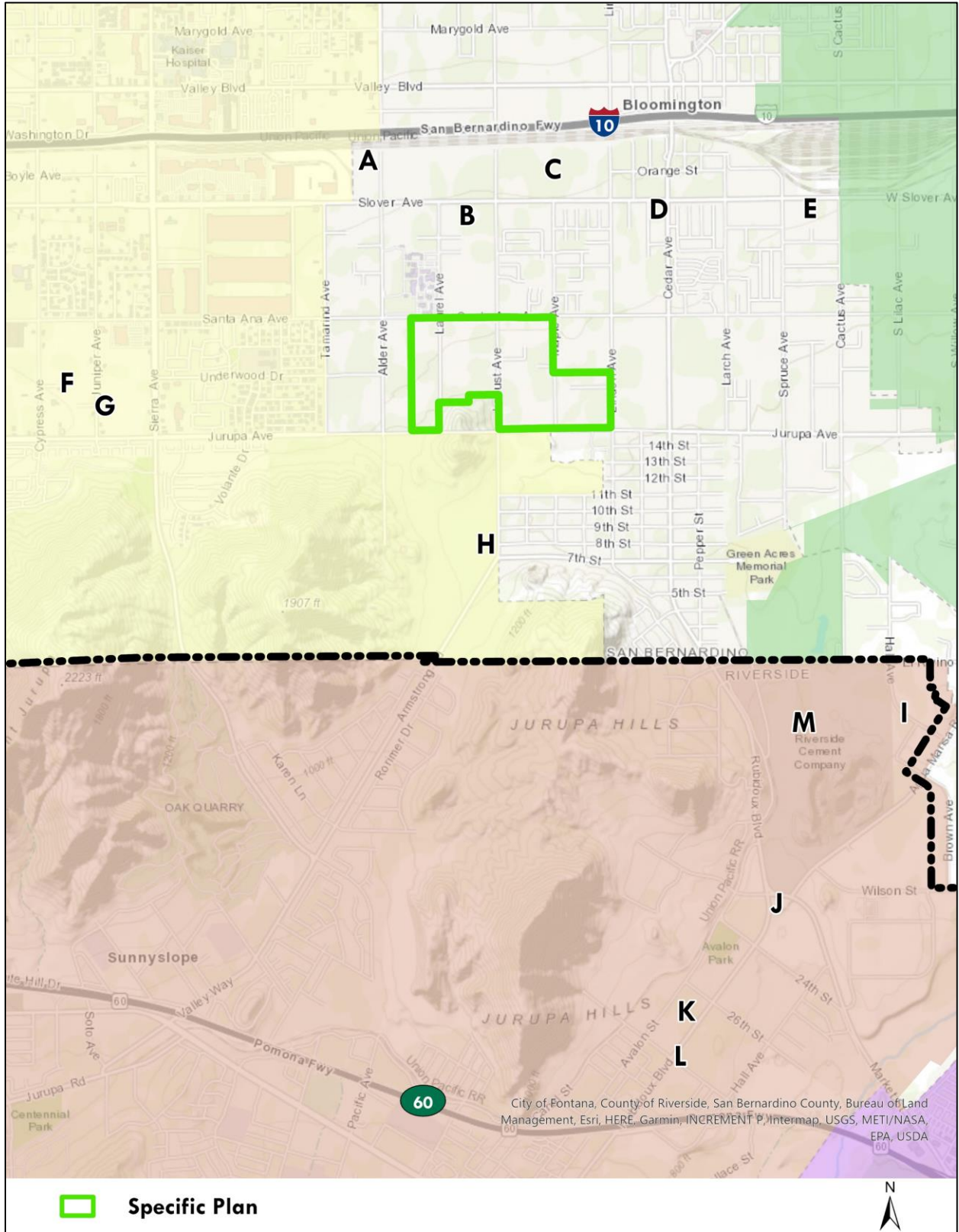
<sup>2</sup> Level of Service

### 3.3 Opening Year Traffic Volumes and Intersection Operations

Opening Year Baseline (2022) traffic volumes were developed by applying a growth rate of one percent per year to the existing (2020) traffic volumes and adding traffic generated by other approved and pending development projects. Twelve cumulative development projects in the County of San Bernardino, and the Cities of Fontana and Jurupa Valley were included in the Opening Year Baseline traffic volumes. The locations of the cumulative projects are shown in Figure 8. The project trip generation for each cumulative project was calculated using trip rates from the Institute of Transportation Engineers, *Trip Generation*, 10<sup>th</sup> Edition, or taken from each project's respective traffic study. Table 9 shows the trip generation for each cumulative project, and the cumulative detailed assignment can be found in Appendix D. The Opening Year (2022) Baseline traffic volumes are illustrated in Figures 9 and 10. Table 10 shows the Opening Year AM and PM peak hour levels of service at study intersections. As shown in Table 10, the following 6 intersections would operate with unsatisfactory LOS in the Opening Year (2022) Baseline condition.

- #6 – Locust Ave/Santa Ana Ave (100% County of San Bernardino)
- #7 - Locust Ave/Jurupa Ave (50% County of San Bernardino, 50% City of Fontana)
- #16 – Cedar Ave/Jurupa Ave (100% County of San Bernardino)
- #19 – Cedar Ave/El Rivino Dr (100% Jurupa Valley)
- #20 – Rubidoux Blvd/Market St (100% City of Jurupa Valley)
- #22 – Market St/ 24<sup>th</sup> St (100% City of Jurupa Valley)

Figure 8: Location of Cumulative Projects



**Table 9. Cumulative Projects Trip Generation**

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
<u>Trip Rates</u>									
Warehouse <sup>1</sup>	TSF	1,740	0.131	0.039	0.170	0.051	0.139	0.190	
High Cube Transload and Short-Term Storage Warehouse <sup>2</sup>	TSF	1,400	0.062	0.018	0.080	0.028	0.072	0.100	
Gasoline Station with Convenience Market <sup>3</sup>	TSF	1,440.20	38.75	37.24	75.99	45.06	43.29	88.35	
High Cube Cold Storage Warehouse <sup>4</sup>	TSF	2,120	0.085	0.025	0.110	0.032	0.088	0.120	
Manufacturing <sup>5</sup>	TSF	3,930	0.477	0.143	0.620	0.208	0.462	0.670	
Fast Food Restaurant with Drive-Through <sup>6</sup>	TSF	470.95	20.50	19.69	40.19	16.99	15.68	32.67	
General Light Industrial <sup>7</sup>	TSF	4,960	0.616	0.084	0.700	0.082	0.548	0.630	
Regional Park <sup>8</sup>	TSF	4,960	0.012	0.008	0.020	0.061	0.050	0.110	
<u>County of San Bernardino</u>									
<b>A: Alder Ave Industrial PCE<sup>9</sup></b>	174.78	TSF	403	30	13	43	14	35	49
<b>B: Bloomington Business Center PCE<sup>9</sup></b>	344	TSF	1604	107	30	137	35	108	143
<b>C: Slover High Cube PCE<sup>9</sup></b>	708.24	TSF	629	50	24	74	6	38	44
<b>D: Chevron Slover<sup>9</sup></b>	13	FP	1936	25	25	50	39	39	78
<b>E: Slover Cactus Warehouse PCE<sup>9</sup></b>	257.855	TSF	587	44	13	57	17	47	64
<u>City of Fontana</u>									
<b>F: Goodman Industrial Park PCE<sup>9</sup></b>	1118.46	TSF	3144	206	62	268	73	194	267
<b>G: Fontana Foothills Commerce Center PCE<sup>9</sup></b>	754.408	TSF	1640	74	22	96	32	85	117
<b>H: West Logistics Center PCE<sup>9</sup></b>	3473.69	TSF	7619	351	105	456	196	470	666
<u>City of Jurupa Valley</u>									
<b>I: Agua Mansa Development Project PCE<sup>9</sup></b>	335.00	TSF	1670	209	58	267	90	202	292
<b>J: Karcher Industrial Project<sup>1</sup></b>	190.634	TSF	506	39	11	50	18	41	59
<b>K: Drive thru Restaurant and Gas Station/Conv. Store<sup>2,3</sup></b>	5.00	TSF	2185	64	61	125	70	67	137
<b>L: Ice Box<sup>9</sup></b>	124.216	TSF	390	15	3	18	5	14	19
<b>M: Agua Mansa Commerce Park SP<sup>9</sup></b>	4,416.06	TSF	11376	581	165	746	231	637	868
<b>Total Project PCE Trip Generation</b>			<b>33689</b>	<b>1795</b>	<b>592</b>	<b>2387</b>	<b>826</b>	<b>1977</b>	<b>2803</b>

TSF = Thousand Square Feet

FP = Fuelling Positions

PCE = Passenger Car Equivalent

<sup>1</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 150 - Warehousing.

<sup>2</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 154 - High-Cube Transload and Short-Term Storage Warehouse.

<sup>3</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 945 - Gasoline/Service Station With Convenience Market.

<sup>4</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 157 - High-Cube Cold Storage Warehouse.

<sup>5</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 140 - Manufacturing.

<sup>6</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 934 - Fast Food Restaurant with Drive Th

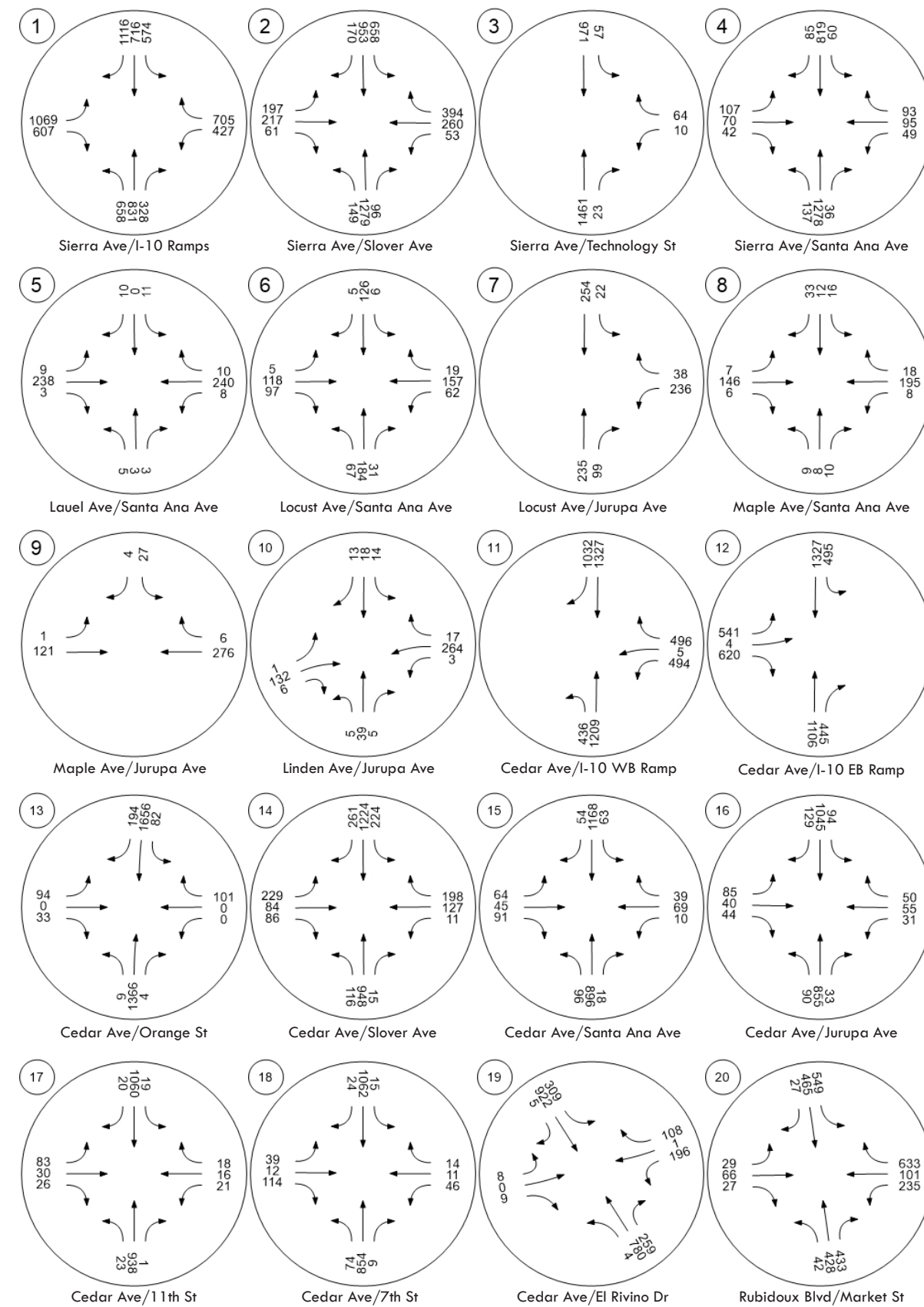
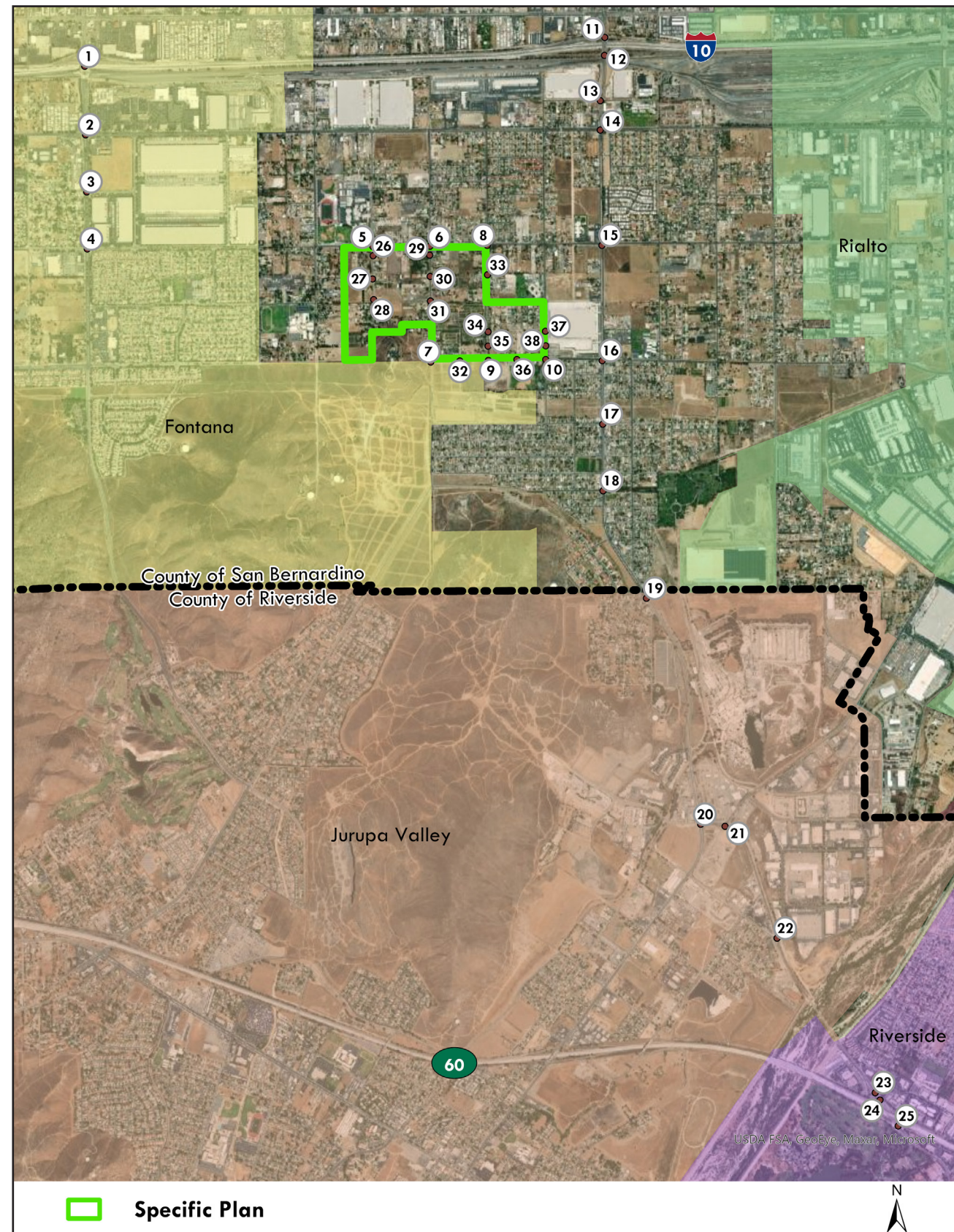
<sup>7</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 110 - General Light Industrial.

<sup>8</sup> Trip rates from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017. Land Use Code 411 - Public Park.

<sup>9</sup> Trip Rates Taken From Project's Traffic Analysis Document

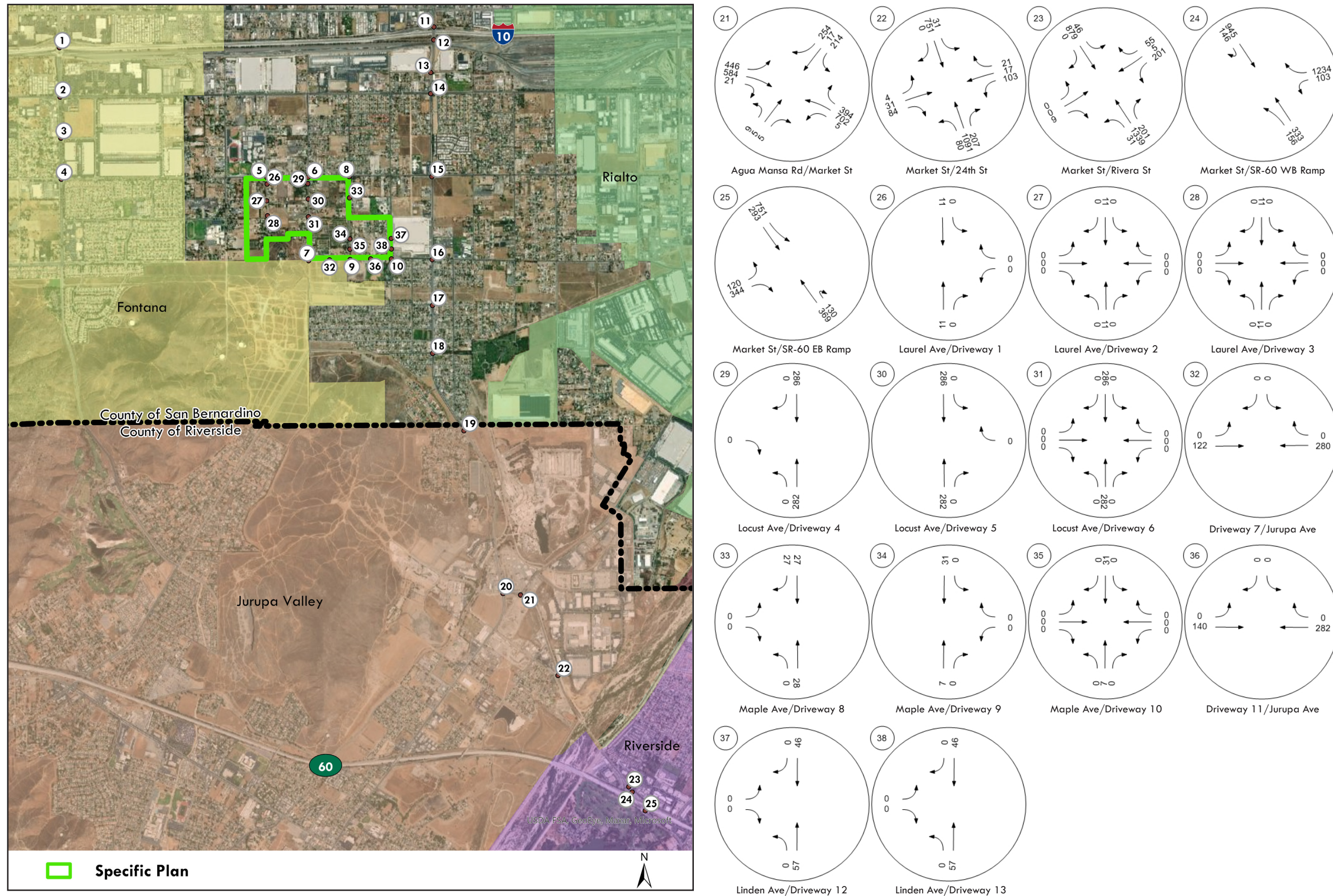


Figure 9a: Opening Year AM Peak Hour Volumes



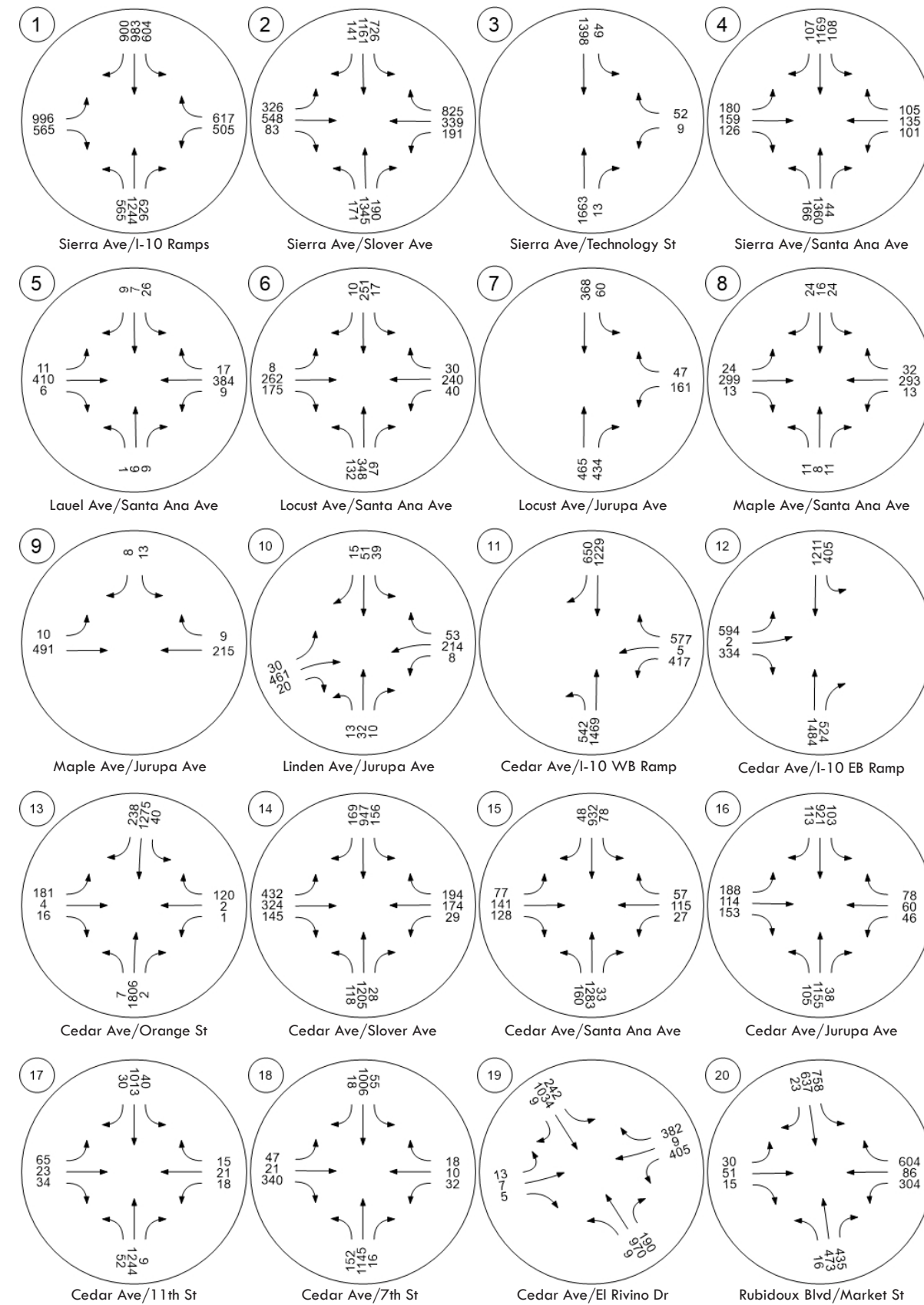
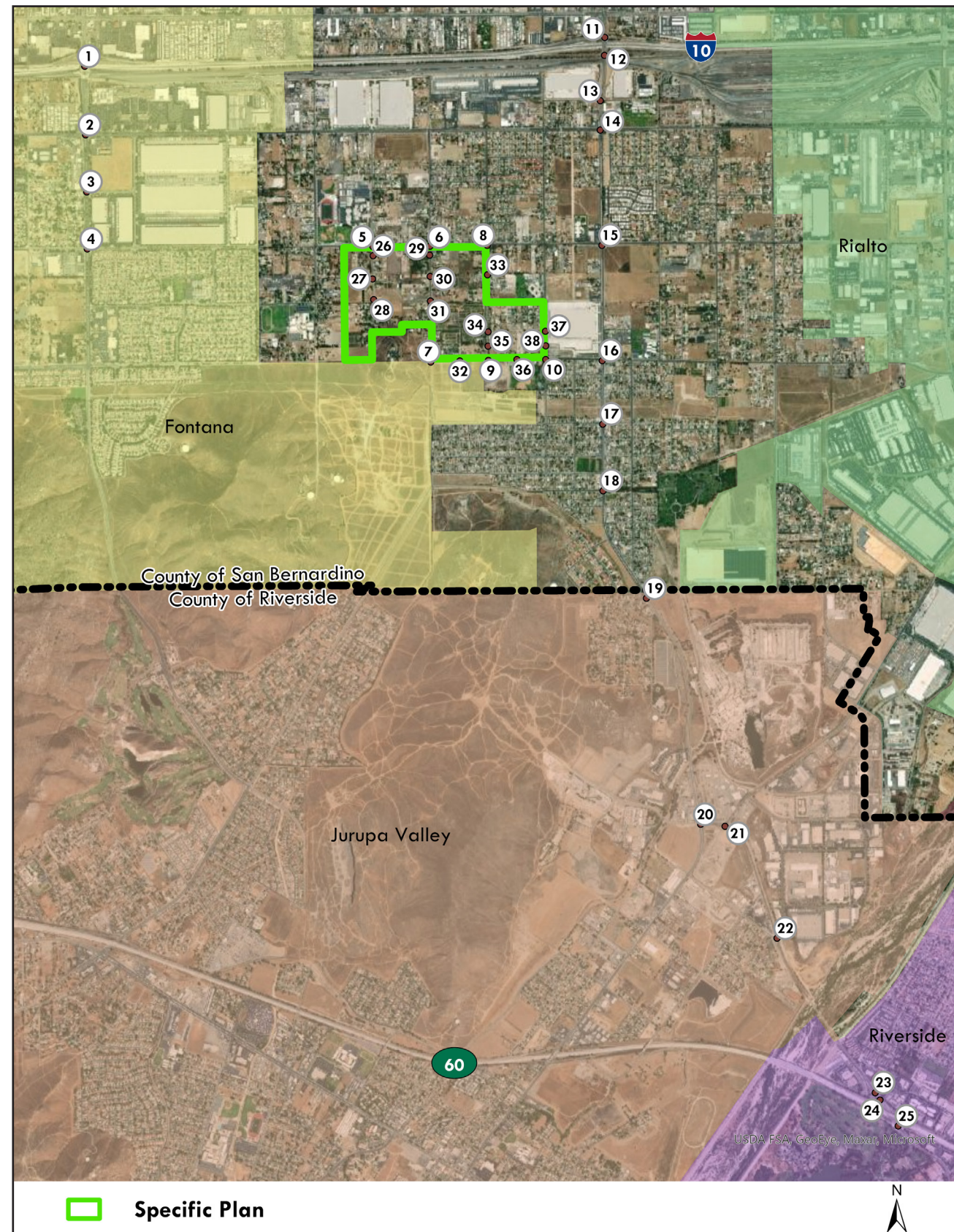
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Figure 9b: Opening Year AM Peak Hour Volume



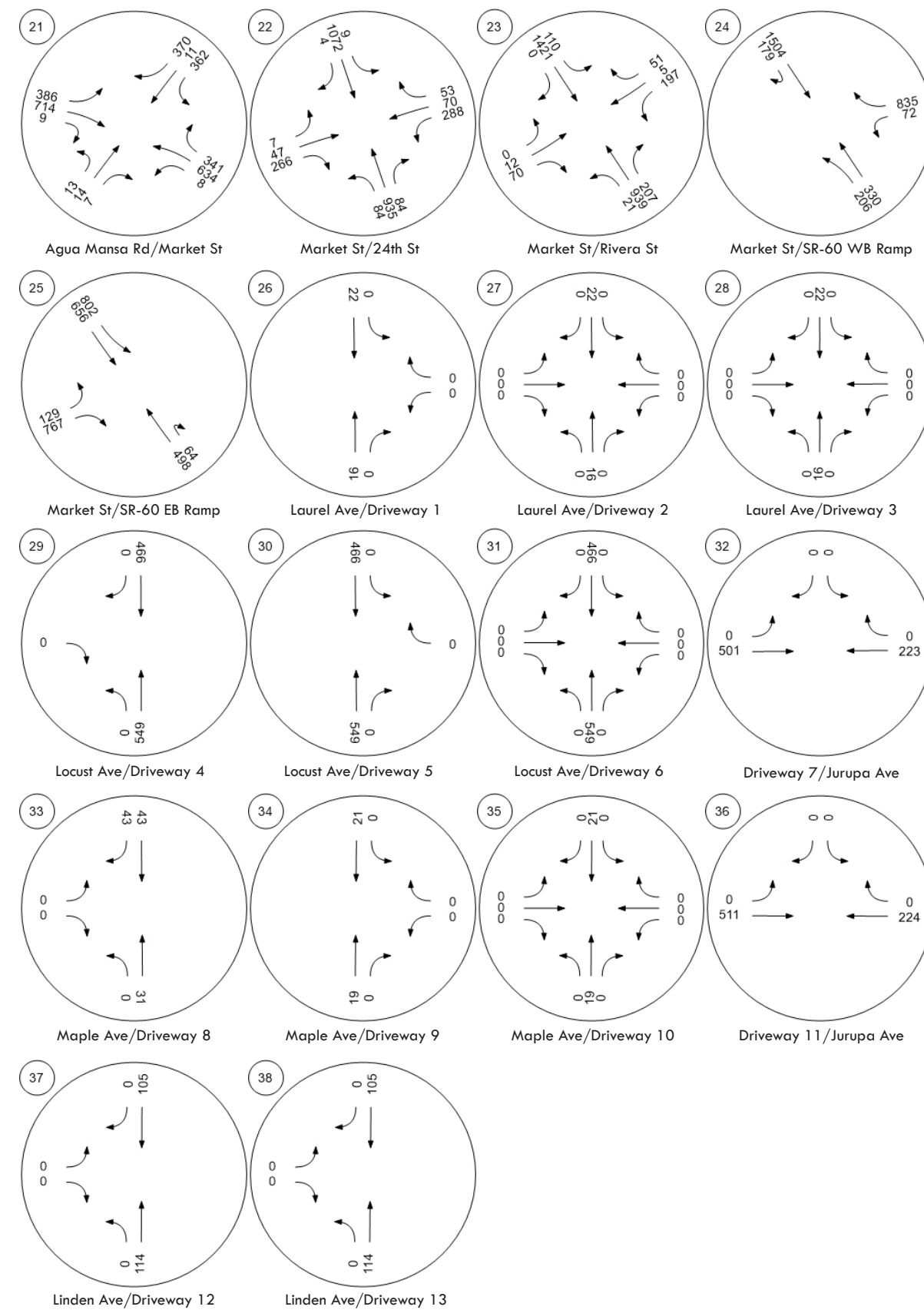
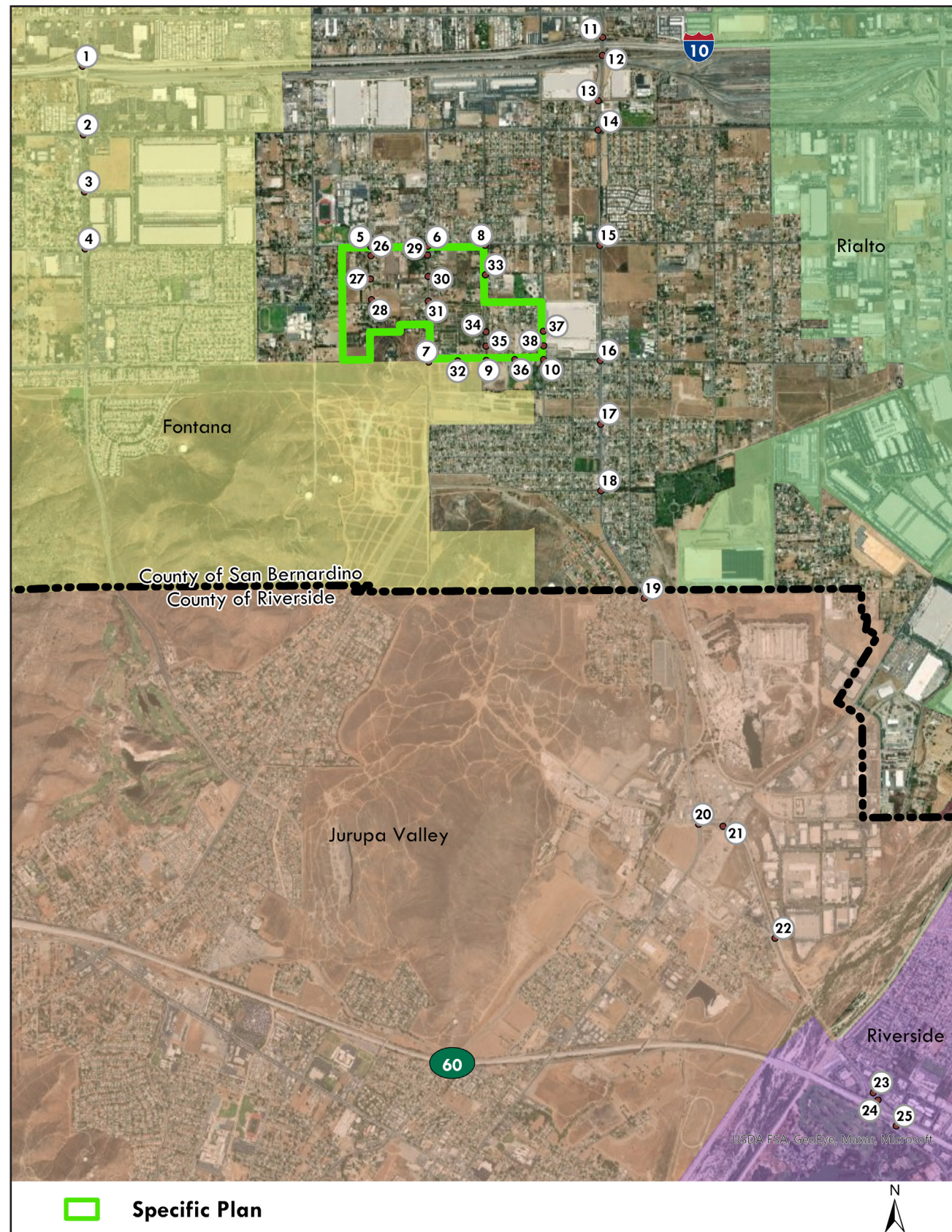
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Figure 10a: Opening Year PM Peak Hour Volume



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Figure 10b: Opening Year PM Peak Hour Volume



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**Table 10. Opening Year AM and PM Peak Hour Levels of Service**

	Intersection	Location %	Signal Control	AM Peak		PM Peak	
				Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>
1.	Sierra Ave/I-10 Ramps (Existing)	50F/50C	Signal	36.3	D	35.1	D
2.	Sierra Ave/Slover Ave (Existing)	100 F	Signal	33.1	C	40.0	D
3.	Sierra Ave/Technology St (Existing)	100 F	Signal	4.5	A	3.8	A
4.	Sierra Ave/Santa Ana Ave (Existing)	100 F	Signal	17.0	B	21.7	C
5.	Laurel Ave/Santa Ana Ave (Existing)	100 SB	AWSC	9.6	A	12.7	B
6.	Locust Ave/Santa Ana Ave (Existing)	100 SB	AWSC	12.7	B	>50	F
7.	Locust Ave/Jurupa Ave (Existing)	50SB/50F	TWSC	27.4	D	>50	F
8.	Maple Ave/Santa Ana Ave (Existing)	100 SB	TWSC	12.3	B	18.2	C
9.	Maple Ave/Jurupa Ave (Existing)	100 SB	TWSC	13.3	B	15.8	C
10.	Linden Ave/Jurupa Ave (Existing)	100 SB	AWSC	10.6	B	17.4	C
11.	Cedar Ave/ I-10 WB Ramps (Existing)	50SB/50C	Signal	78.2	E	60.2	E
12.	Cedar Ave/ I-10 EB Ramps (Existing)	50SB/50C	Signal	53.5	D	42.5	D
13.	Cedar Ave/Orange Street (Existing)	100 SB	Signal	9.4	A	18.1	B
14.	Cedar Ave/Slover Ave (Existing)	100 SB	Signal	56.0	E	70.5	E
15.	Cedar Ave/Santa Ana Ave (Existing)	100 SB	Signal	14.0	B	27.6	C
16.	Cedar Ave/Jurupa Ave (Existing)	100 SB	Signal	>80	F	>80	F
17.	Cedar Ave/11th St (Existing)	100 SB	Signal	8.8	A	9.5	A
18.	Cedar Ave/7th St (Existing)	100 SB	Signal	11.0	B	26.1	C
19.	Cedar Ave/El Rivino Dr (Existing)	100 JV	Signal	33.9	C	56.7	E
20.	Rubidoux Blvd/Market St (Existing)	100 JV	Signal	72.9	E	>80	F
21.	Agua Mansa Rd/Market St (Existing)	100 JV	Signal	34.3	C	37.5	D
22.	Market St/24th St (Existing)	100 JV	Signal	25.7	C	72.2	E
23.	Market St/Rivera St (Existing)	100 R	Signal	12.3	B	15.0	B
24.	Market St/SR-60 WB Ramp (Existing)	50R/50C	Signal	10.7	B	12.1	B
25.	Market St/SR-60 EB Ramp (Existing)	50R/50C	Signal	23.6	C	43.7	D
26.	Laurel Ave/Driveway 1 (Proposed)	100 SB	TWSC	-	-	-	-
27.	Laurel Ave/Driveway 2 (Proposed)	100 SB	TWSC	-	-	-	-
28.	Laurel Ave/Driveway 3 (Proposed)	100 SB	TWSC	-	-	-	-
29.	Locust Ave/Driveway 4 (Proposed)	100 SB	TWSC	-	-	-	-
30.	Locust Ave/Driveway 5 (Proposed)	100 SB	TWSC	-	-	-	-
31.	Locust Ave/Driveway 6 (Proposed)	100 SB	Signal	-	-	-	-
32.	Driveway 7/Jurupa Ave (Proposed)	50SB/50F	TWSC	-	-	-	-
33.	Maple Ave/Driveway 8 (Proposed)	100 SB	TWSC	-	-	-	-
34.	Maple Ave/Driveway 9 (Proposed)	100 SB	TWSC	-	-	-	-
35.	Maple Ave/Driveway 10 (Proposed)	100 SB	TWSC	-	-	-	-
36.	Driveway 11/Jurupa Ave (Proposed)	100 SB	TWSC	-	-	-	-
37.	Linden Ave/Driveway 12 (Proposed)	100 SB	TWSC	-	-	-	-
38.	Linden Ave/Driveway 13 (Proposed)	100 SB	TWSC	-	-	-	-

☐ = Unsatisfactory Level of Service    TWSC = Two-Way Stop Controlled    AWSC = Two-Way Stop Controlled

- F Fontana
- C Caltrans
- SB San Bernardino
- JV Jurupa Valley
- R Riverside

<sup>1</sup> Delay in Seconds

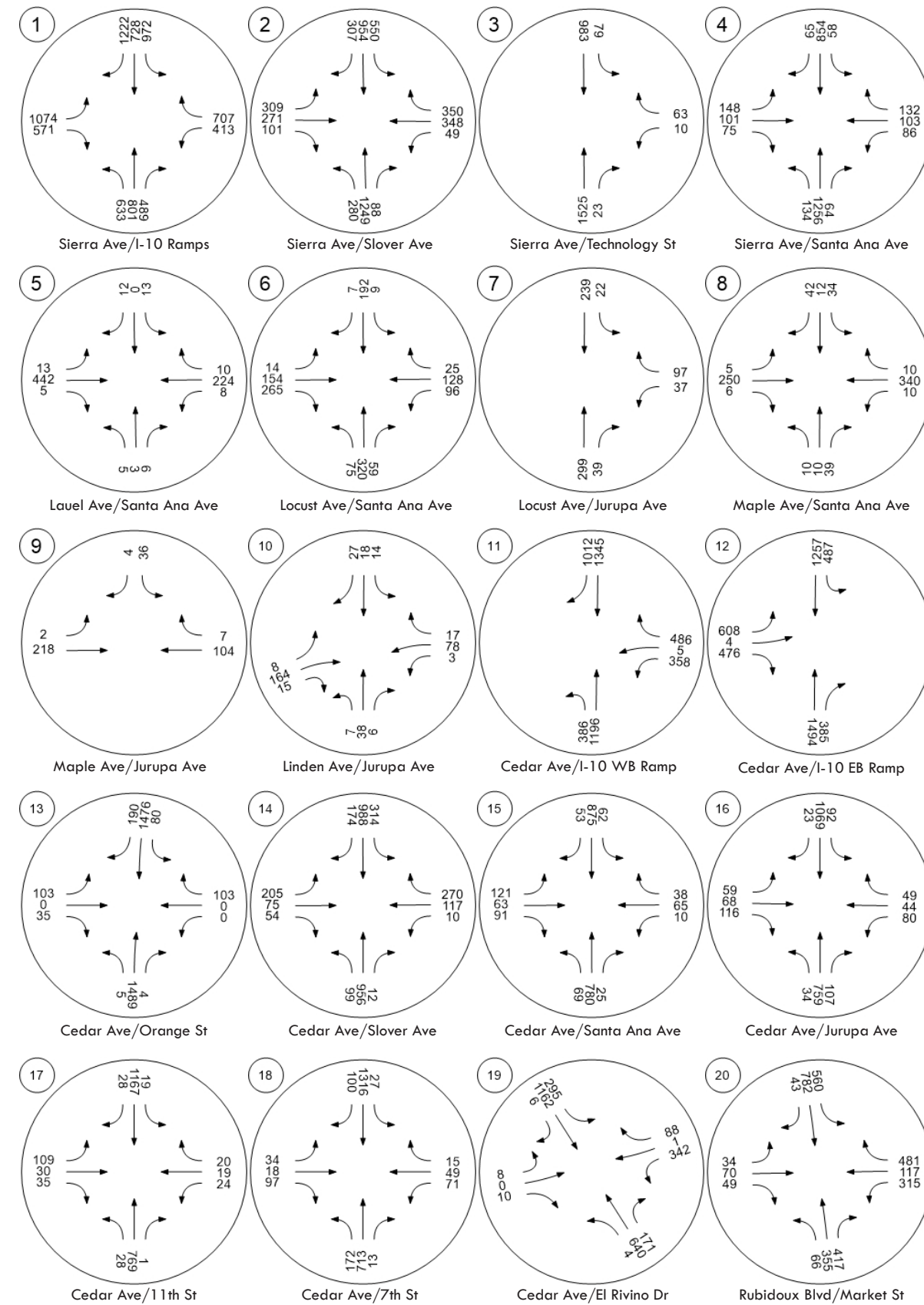
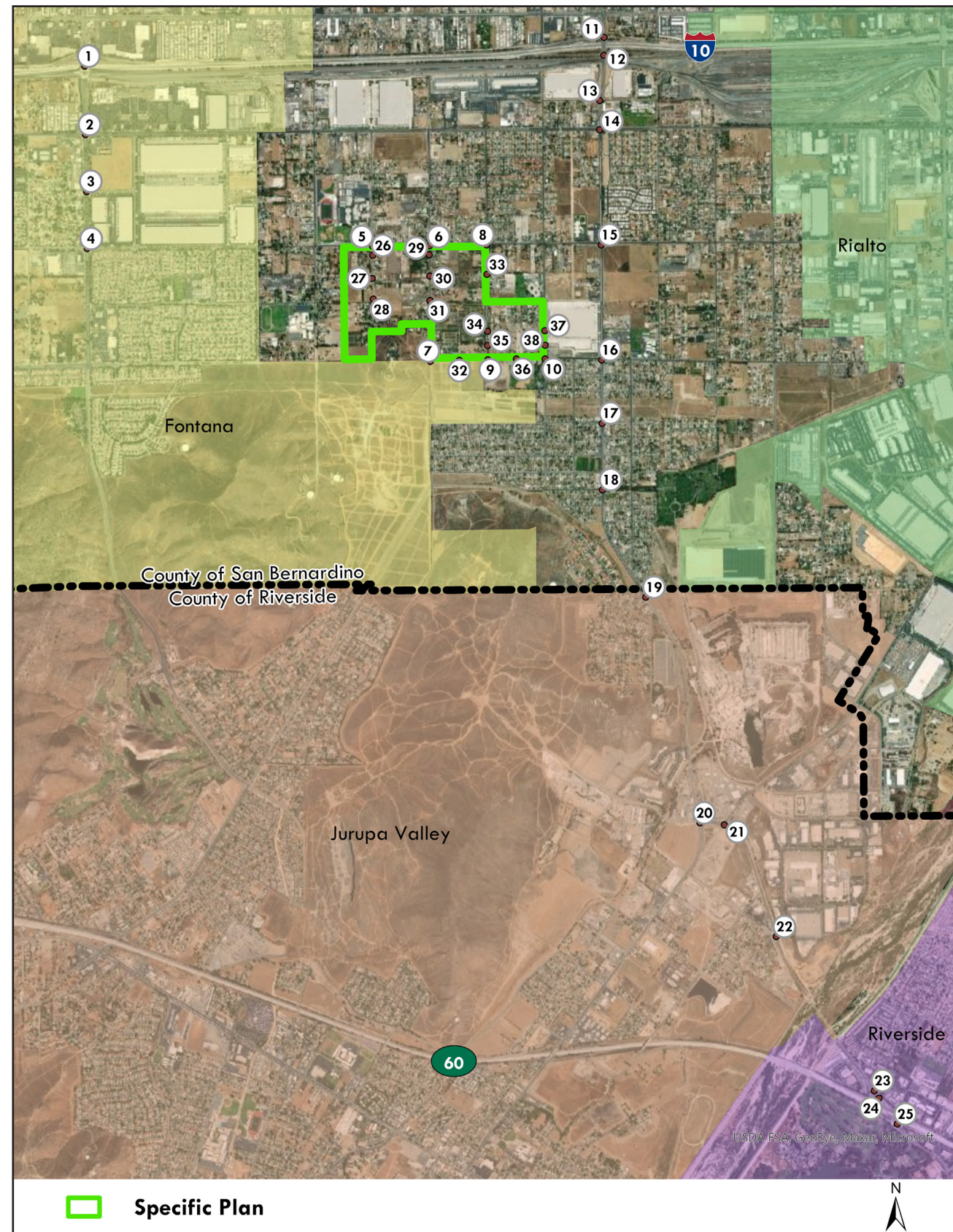
<sup>2</sup> Level of Service

### 3.4 General Plan Buildout Traffic Volumes and Intersection Operations

Year 2040 traffic volumes were forecast using the San Bernardino County Transportation Analysis Model (SBTAM). Year 2040 traffic volumes were post-processed using the methodology outlined in NCHRP Report 765 *Analytical Travel Forecasting Approaches for Project-Level Planning and Design*. The Year 2040 Baseline traffic volumes are illustrated in Figures 11 and 12. Table 11 shows the Year 2040 AM and PM peak hour levels of service at study intersections. As shown in Table 11, the following intersections would operate with unsatisfactory LOS in the General Plan Buildout condition. The post processing sheets can be found in Appendix D

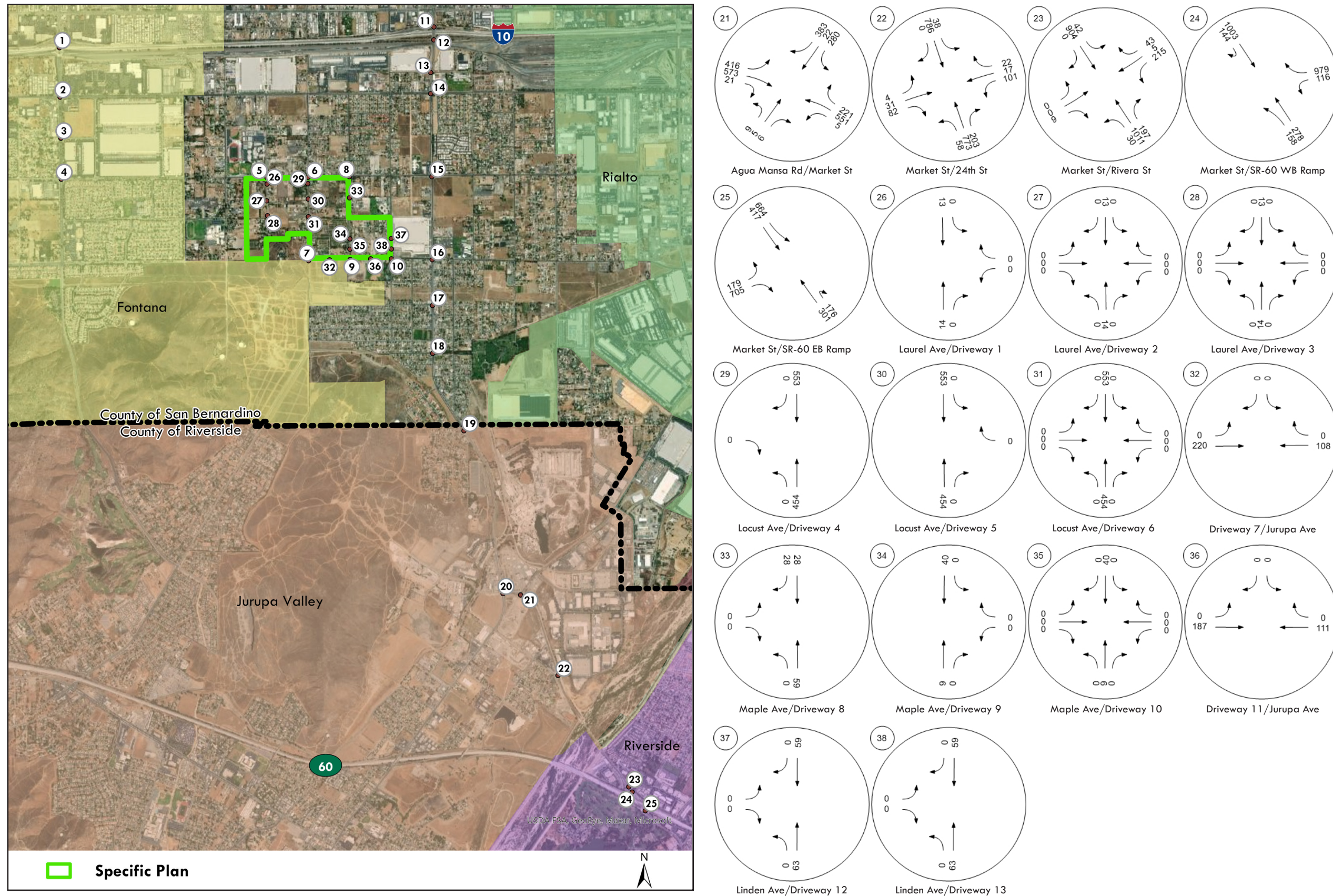
- #1 – Sierra Ave/I-10 WB Ramps (50% City of Fontana, 50% Caltrans)
- #2 – Sierra Ave/Slover Ave (100% City of Fontana)
- #4 – Sierra Ave/Santa Ana Ave (100% City of Fontana)
- #5 – Laurel Ave/Santa Ana Ave (100% County of San Bernardino)
- #6 – Locust Ave/Santa Ana Ave (100% County of San Bernardino)
- #7 - Locust Ave/Jurupa Ave (50% County of San Bernardino, 50% City of Fontana)
- #8 – Maple Ave/Santa Ana Ave (100% County of San Bernardino)
- #9 – Maple Ave/Jurupa Ave (100% County of San Bernardino)
- #10 – Linden Ave/Jurupa Ave (100% County of San Bernardino)
- #11 – Cedar Ave/I-10 WB Ramps (50% County of San Bernardino, 50% Caltrans)
- #12 – Cedar Ave/I-10 EB Ramps (50% County of San Bernardino, 50% Caltrans)
- #13 – Cedar Ave/Orange St (100% County of San Bernardino)
- #14 – Cedar Ave/Slover Ave (100% County of San Bernardino)
- #15 – Cedar Ave/Santa Ana Ave (100% County of San Bernardino)
- #16 – Cedar Ave/Jurupa Ave (100% County of San Bernardino)
- #17 – Cedar Ave/11<sup>th</sup> St (100% County of San Bernardino)
- #18 – Cedar Ave/7<sup>th</sup> St (100% County of San Bernardino)
- #19 – Cedar Ave/El Rivino Dr (100% City of Jurupa Valley)
- #20 – Rubidoux Blvd/Market St (100% City of Jurupa Valley)
- #21 – Aqua Mansa Rd/Market St (100% City of Jurupa Valley)
- #22 – Market St/24<sup>th</sup> St (100% City of Jurupa Valley)

Figure 11a: General Plan Buildout AM Peak Hour Volumes



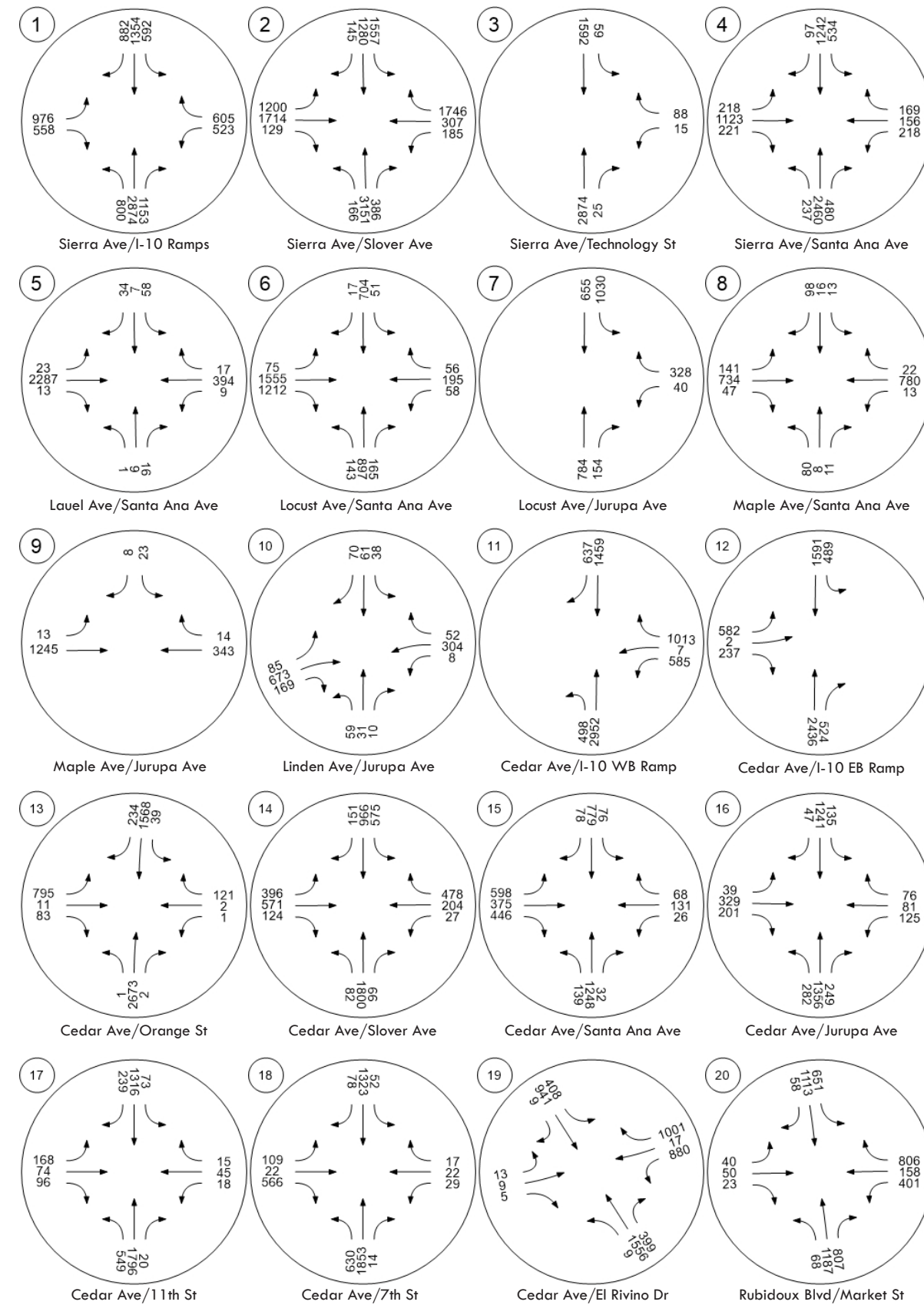
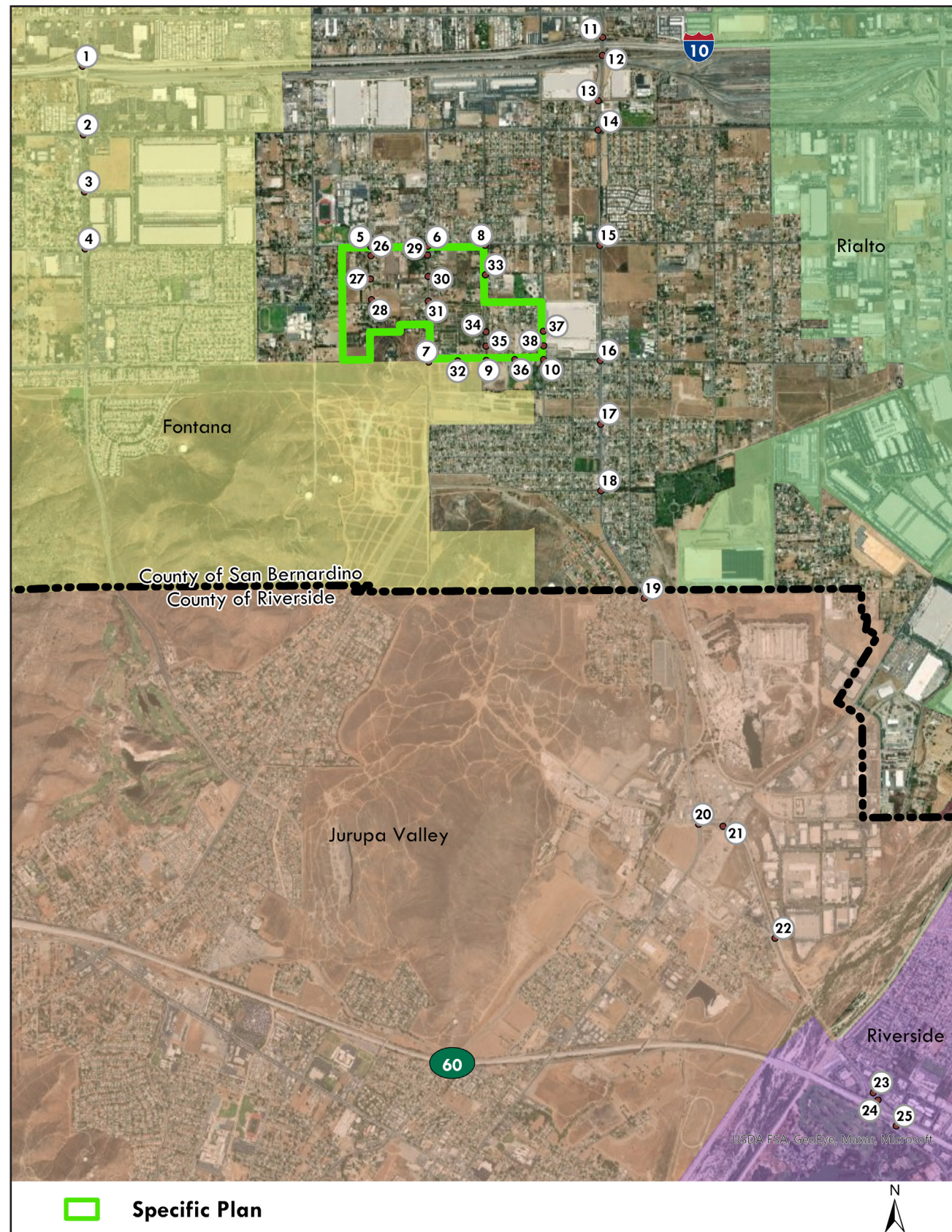
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Figure 11b: General Plan Buildout AM Peak Hour Volumes



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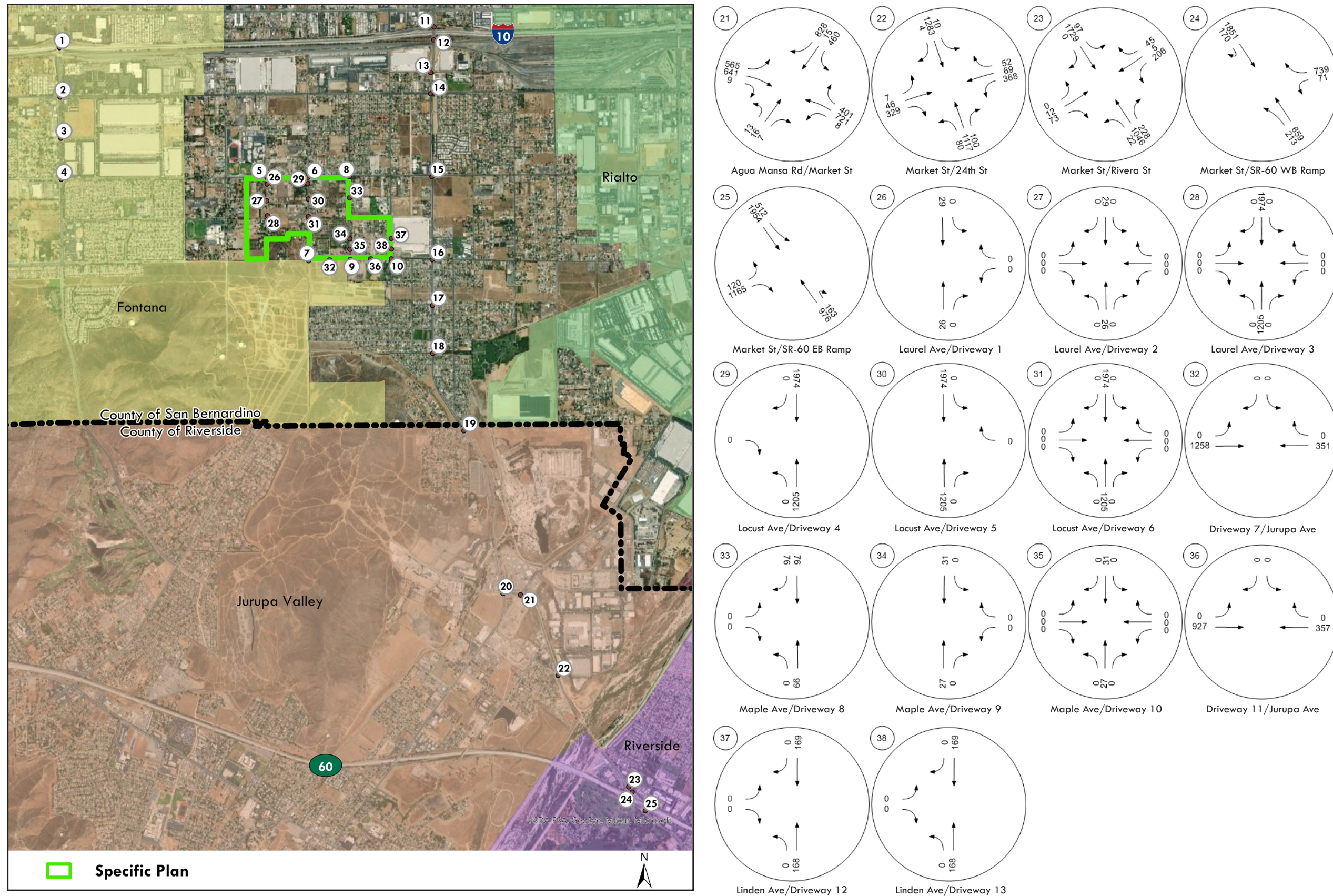
Figure 12a: General Plan Buildout PM Peak Hour Volumes



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Figure 12b: General Plan Buildout PM Peak Hour Volumes



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**Table 11. General Plan Building AM and PM Peak Hour Levels of Service**

	Intersection	Location %	Signal Control	AM Peak		PM Peak	
				Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>
1.	Sierra Ave/I-10 Ramps (Existing)	50F/50C	Signal	41.8	D	>80	F
2.	Sierra Ave/Slover Ave (Existing)	100 F	Signal	35.5	D	>80	F
3.	Sierra Ave/Technology St (Existing)	100 F	Signal	4.8	A	6.5	A
4.	Sierra Ave/Santa Ana Ave (Existing)	100 F	Signal	19.5	B	>80	F
5.	Laurel Ave/Santa Ana Ave (Existing)	100 SB	AWSC	11.6	B	>50	F
6.	Locust Ave/Santa Ana Ave (Existing)	100 SB	AWSC	45.4	E	>50	F
7.	Locust Ave/Jurupa Ave (Existing)	50SB/50F	TWSC	15.0	C	>50	F
8.	Maple Ave/Santa Ana Ave (Existing)	100 SB	TWSC	17.9	C	>50	F
9.	Maple Ave/Jurupa Ave (Existing)	100 SB	TWSC	10.9	B	>50	F
10.	Linden Ave/Jurupa Ave (Existing)	100 SB	AWSC	8.5	A	>50	F
11.	Cedar Ave/ I-10 WB Ramps (Existing)	50SB/50C	Signal	47.4	D	>80	F
12.	Cedar Ave/ I-10 EB Ramps (Existing)	50SB/50C	Signal	55.4	E	>80	F
13.	Cedar Ave/Orange Street (Existing)	100 SB	Signal	8.9	A	>80	F
14.	Cedar Ave/Slover Ave (Existing)	100 SB	Signal	38.1	D	>80	F
15.	Cedar Ave/Santa Ana Ave (Existing)	100 SB	Signal	13.3	B	>80	F
16.	Cedar Ave/Jurupa Ave (Existing)	100 SB	Signal	52.0	D	>80	F
17.	Cedar Ave/11th St (Existing)	100 SB	Signal	9.3	A	60.7	E
18.	Cedar Ave/7th St (Existing)	100 SB	Signal	13.9	B	>80	F
19.	Cedar Ave/El Rivino Dr (Existing)	100 JV	Signal	24.5	C	>80	F
20.	Rubidoux Blvd/Market St (Existing)	100 JV	Signal	52.8	D	>80	F
21.	Agua Mansa Rd/Market St (Existing)	100 JV	Signal	25.8	C	>80	F
22.	Market St/24th St (Existing)	100 JV	Signal	18.1	B	>80	F
23.	Market St/Rivera St (Existing)	100 R	Signal	11.4	B	16.8	B
24.	Market St/SR-60 WB Ramp (Existing)	50R/50C	Signal	11.1	B	14.0	B
25.	Market St/SR-60 EB Ramp (Existing)	50R/50C	Signal	22.9	C	48.3	D
26.	Laurel Ave/Driveway 1 (Proposed)	100 SB	TWSC	-	-	-	-
27.	Laurel Ave/Driveway 2 (Proposed)	100 SB	TWSC	-	-	-	-
28.	Laurel Ave/Driveway 3 (Proposed)	100 SB	TWSC	-	-	-	-
29.	Locust Ave/Driveway 4 (Proposed)	100 SB	TWSC	-	-	-	-
30.	Locust Ave/Driveway 5 (Proposed)	100 SB	TWSC	-	-	-	-
31.	Locust Ave/Driveway 6 (Proposed)	100 SB	Signal	-	-	-	-
32.	Driveway 7/Jurupa Ave (Proposed)	50SB/50F	TWSC	-	-	-	-
33.	Maple Ave/Driveway 8 (Proposed)	100 SB	TWSC	-	-	-	-
34.	Maple Ave/Driveway 9 (Proposed)	100 SB	TWSC	-	-	-	-
35.	Maple Ave/Driveway 10 (Proposed)	100 SB	TWSC	-	-	-	-
36.	Driveway 11/Jurupa Ave (Proposed)	100 SB	TWSC	-	-	-	-
37.	Linden Ave/Driveway 12 (Proposed)	100 SB	TWSC	-	-	-	-
38.	Linden Ave/Driveway 13 (Proposed)	100 SB	TWSC	-	-	-	-

☐ = Unsatisfactory Level of Service    TWSC = Two-Way Stop Controlled    AWSC = Two-Way Stop Controlled

- F Fontana
- C Caltrans
- SB San Bernardino
- JV Jurupa Valley
- R Riverside

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

## 4 PROPOSED PROJECT

### 4.1 Project Description and Project Access

As Described in Section 2.1 – Project Description, the proposed SP is the redevelopment of the approximately 213-acre Specific Plan Area, located south of Santa Ana Avenue, west of Linden Avenue, north of Jurupa Avenue, and east of Alder Avenue in the unincorporated area of Bloomington. The SP site is currently occupied by residential homes, nurseries, and a church.

The SP would develop up to 3,235,836 square feet (sf) of industrial uses over three phases. Phase 1 and 2 comprises the Opening Year Development of Planning Area A Option 1 (OY 1; proposed OY 1), which includes a 383,000sf fulfillment center (Building 1, Site 1) and 1,251,640sf High-Cube Warehouse (Building 2, Site 2) for Phase 1, and a 479,000sf fulfillment center (Building 3, Site 3) and ancillary truck parking area (Site 4) for Phase 2. Phase 3 does not have any planned development at this time, therefore a split of 598,400sf of future fulfillment center use and 523,793sf of industrial park will be analyzed to account for the maximum FAR possible for the SP. Phase 1 and 2 are expected to be operational by year 2022, and Phase 3 is expected by General Plan Buildout year 2040.

An Opening Year Option 2 (OY 2) was also analyzed as an alternative to the proposed OY 1. OY 2 would have the 598,400SF of Future Fulfillment Center built by 2022, with a 710,400sf fulfillment center (Building 1, Site 1) and 1,251,640sf High-Cube Warehouse (Building 2, Site 2) for Phase 1, and a 750,000sf fulfillment center (Building 3, Site 3) and ancillary truck parking area (Site 4) for Phase 2. The total SP acres and square feet would remain the same, with the only change being the Fulfillment Center (598,400 SF) being built by 2022.

For the purpose of this analysis, the impacts will be analyzed using the full SP impact, and a fair share for mitigation will be split from the total SP and Phase 1 and 2 (OY 1). A fair share for mitigation will also be calculated for the OY 2 scenario.

Access to the SP site would be provided from driveways along Jurupa Avenue and Linden Avenue, and internal driveways along Laurel Avenue, Locust Avenue, and Maple Avenue will be accessed by Santa Ana Avenue or Jurupa Avenue (except for Laurel Avenue as it does not connect to Jurupa Ave). A signalized intersection will be constructed on Locust Avenue at Driveway #6 to provide access to development sites on the east and west sides of Locust Avenue. Truck access will be limited to Jurupa Avenue as only passenger vehicles will have access to Santa Ana Avenue. The SP circulation is shown in Figure 13.

### 4.2 Project Trip Generation

Vehicle trips were generated for the project using trip rates from the Institute of Transportation Engineers (ITE) *Trip Generation* (10th Edition, 2017) and the TUMF High-Cube Warehouse Trip Generation Study, (WSP, 2019). The trip generation is broken out by vehicle type and passenger car equivalent (PCE) factors are applied to the truck trips to determine the PCE trip generation. Passenger car equivalent factors account for the additional roadway capacity utilized by trucks due to their larger size, slower acceleration and reduced maneuverability when compared to passenger cars. The project trip generation is shown in Table 12. The proposed Total SP would generate approximately 8,555 new daily PCE trips which includes 621 new AM peak hour and

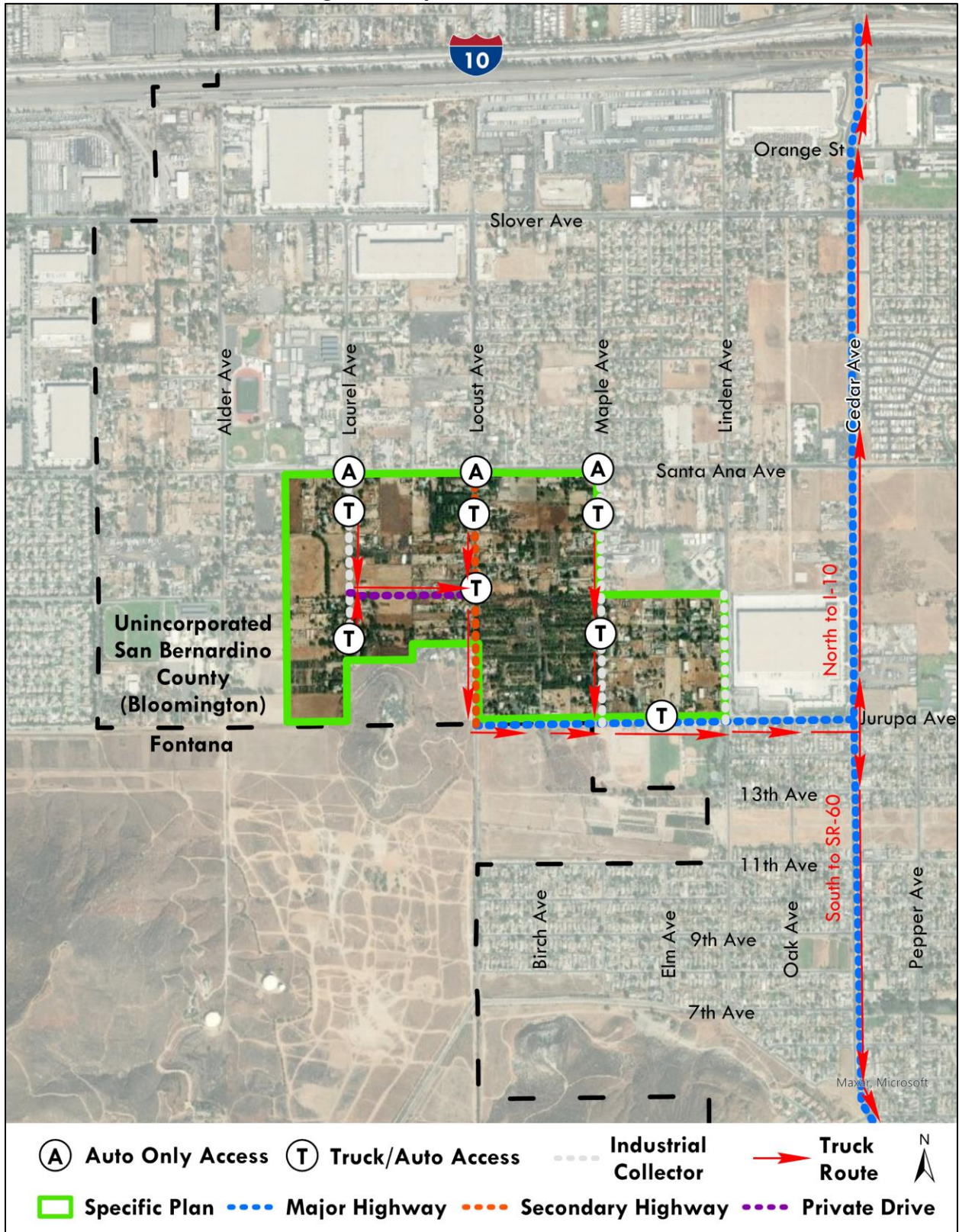
719 new PM peak hour PCE trips. The OY 1 would generate approximately 4,668 new daily PCE trips which includes 263 new AM peak hour and 335 new PM peak hour PCE trips. The OY 2 would generate approximately 6,315 new daily PCE trips which includes 355 new AM peak hour and 453 new PM peak hour PCE trips.

### 4.3 Project Trips

Two different distributions were developed for automobile trips and for truck trips. Automobile trips would travel to and from the site using both Santa Ana Avenue and Jurupa Avenue, with a majority using the I-10 and SR-60 Freeways. All truck trips would travel using Jurupa Avenue to Cedar Avenue to travel to the I-10 and SR-60 Freeways. The project trip distribution and total project trip assignment for the SP and OY 1 are shown in Figures 14, 15, 16, 17, and 18. The detailed trip distribution and assignment for passenger car and truck trips for the SP, OY 1, and OY 2, as well as the total assignment for the OY 2, are provided in Appendix E.

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Figure 13: Specific Plan Circulation



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Table 12. Project Trip Generation

Land Use	Units	AM Peak Hour				PM Peak Hour		
		Daily	In	Out	Total	In	Out	Total
<u>Trip Rates</u>								
High Cube Transload and Short-Term Storage Warehouse <sup>1</sup>	TSF	1.400	0.062	0.018	0.080	0.028	0.072	0.100
Fulfilment Center <sup>2</sup>		2.129	0.099	0.023	0.122	0.064	0.101	0.165
Cars	TSF	1.750	0.083	0.020	0.103	0.056	0.088	0.144
2-4 Axle	TSF	0.162	0.006	0.002	0.008	0.004	0.007	0.011
5 Axle	TSF	0.217	0.009	0.002	0.011	0.004	0.006	0.010
Industrial Park <sup>3</sup>	TSF	3.370	0.324	0.076	0.400	0.084	0.316	0.400
<b><u>Project Trip Gen</u></b>								
<b>Building 1, Site 1 (Fulfilment Center)</b>	383.000 TSF	815	38	9	47	25	39	63
<b><u>Vehicle Mix<sup>6</sup></u></b>		<b><u>Percent</u></b>						
Passenger Vehicles		670	32	7	39	22	34	55
2 Axle Trucks		21	1	0	1	1	1	1
3 Axle Trucks		21	1	0	1	1	1	1
4+ Axle Trucks		104	4	1	5	2	3	5
		815	38	9	47	25	39	63
<b><u>PCE Trip Generation<sup>5</sup></u></b>		<b><u>PCE Factor</u></b>						
Passenger Vehicles	1.0	670	32	7	39	22	34	55
2 Axle Trucks	1.5	31	1	0	2	1	1	2
3 Axle Trucks	2.0	41	2	0	2	1	2	3
4+ Axle Trucks	3.0	311	13	3	16	6	10	16
Total PCE Trip Generation		1054	48	11	59	30	46	76
<b>Building 2, Site 2 (High-Cube Warehouse)</b>	1251.640 TSF	1752	77	23	100	35	90	125
<b><u>Vehicle Mix<sup>4</sup></u></b>		<b><u>Percent</u></b>						
Passenger Vehicles	79.57%	1394	61	18	80	28	72	100
2 Axle Trucks	3.46%	61	3	1	3	1	3	4
3 Axle Trucks	4.64%	81	4	1	5	2	4	6
4+ Axle Trucks	12.33%	216	10	3	12	4	11	15
	100%	1752	77	23	100	35	90	125
<b><u>PCE Trip Generation<sup>5</sup></u></b>		<b><u>PCE Factor</u></b>						
Passenger Vehicles	1.0	1394	61	18	80	28	72	100
2 Axle Trucks	1.5	91	4	1	5	2	5	6
3 Axle Trucks	2.0	163	7	2	9	3	8	12
4+ Axle Trucks	3.0	648	29	9	37	13	33	46
Total PCE Trip Generation		2296	101	30	131	46	118	164

**Table 12 (cont.). Project Trip Generation**

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
<b>Building 3, Site 3 (Fulfilment Center)</b>	479.000	TSF	1020	47	11	58	31	48	79
<b><u>Vehicle Mix</u><sup>6</sup></b>		<b><u>Percent</u></b>							
Passenger Vehicles			838	40	9	49	27	42	69
2 Axle Trucks			26	1	0	1	1	1	2
3 Axle Trucks			26	1	0	1	1	1	2
4+ Axle Trucks			130	5	1	7	3	4	7
			1020	47	11	58	31	48	79
<b><u>PCE Trip Generation</u><sup>5</sup></b>		<b><u>PCE Factor</u></b>							
Passenger Vehicles	1.0		838	40	9	49	27	42	69
2 Axle Trucks	1.5		39	2	0	2	1	2	3
3 Axle Trucks	2.0		52	2	0	3	1	2	4
4+ Axle Trucks	3.0		389	16	4	20	8	12	20
Total PCE Trip Generation			1318	59	14	73	37	58	95
<b>Future Fulfilment Center (OY 2)</b>	598.400	TSF	1274	59	14	73	39	60	99
<b><u>Vehicle Mix</u><sup>6</sup></b>		<b><u>Percent</u></b>							
Passenger Vehicles			1047	50	12	62	34	53	86
2 Axle Trucks			32	1	0	2	1	1	2
3 Axle Trucks			32	1	0	2	1	1	2
4+ Axle Trucks			162	7	2	8	3	5	8
			1274	59	14	73	39	60	99
<b><u>PCE Trip Generation</u><sup>5</sup></b>		<b><u>PCE Factor</u></b>							
Passenger Vehicles	1.0		1047	50	12	62	34	53	86
2 Axle Trucks	1.5		48	2	0	2	1	2	3
3 Axle Trucks	2.0		65	3	1	3	2	3	4
4+ Axle Trucks	3.0		486	20	5	25	10	15	25
Total PCE Trip Generation			1647	74	17	92	46	72	118
<b>Future Industrial Park (Site 4 and PA A)</b>	367.870	TSF	1240	119	28	147	31	116	147
<b><u>Vehicle Mix</u><sup>7</sup></b>		<b><u>Percent</u></b>							
Passenger Vehicles	78.60%		974	94	22	116	24	91	116
2 Axle Trucks	8.00%		99	10	2	12	2	9	12
3 Axle Trucks	3.90%		48	5	1	6	1	5	6
4+ Axle Trucks	9.50%		118	11	3	14	3	11	14
	100%		1240	119	28	147	31	116	147
<b><u>PCE Trip Generation</u><sup>5</sup></b>		<b><u>PCE Factor</u></b>							
Passenger Vehicles	1.0		974	94	22	116	24	91	116
2 Axle Trucks	1.5		149	14	3	18	4	14	18
3 Axle Trucks	2.0		97	9	2	11	2	9	11
4+ Axle Trucks	3.0		353	34	8	42	9	33	42
Total PCE Trip Generation			1573	151	35	187	39	148	187

**Table 12 (cont.). Project Trip Generation**

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
<b>Future Industrial Park (Planning Area B)</b>	155.926	TSF	525	51	12	62	13	49	62
<b><u>Vehicle Mix</u><sup>7</sup></b>		<b><u>Percent</u></b>							
Passenger Vehicles	78.60%	413	40	9	49	10	39	49	
2 Axle Trucks	8.00%	42	4	1	5	1	4	5	
3 Axle Trucks	3.90%	20	2	0	2	1	2	2	
4+ Axle Trucks	9.50%	50	5	1	6	1	5	6	
	100%	525	51	12	62	13	49	62	
<b><u>PCE Trip Generation</u><sup>5</sup></b>		<b><u>PCE Factor</u></b>							
Passenger Vehicles	1.0	413	40	9	49	10	39	49	
2 Axle Trucks	1.5	63	6	1	7	2	6	7	
3 Axle Trucks	2.0	41	4	1	5	1	4	5	
4+ Axle Trucks	3.0	150	14	3	18	4	14	18	
Total PCE Trip Generation		667	64	15	79	17	63	79	
<b>Total SP PCE Trip Generation</b>	<b>3235.836</b>	<b>8555</b>	<b>498</b>	<b>123</b>	<b>621</b>	<b>215</b>	<b>504</b>	<b>719</b>	
<b>Total OY 1 PCE Trip Generation<sup>8</sup></b>	<b>2113.640</b>	<b>4668</b>	<b>208</b>	<b>55</b>	<b>263</b>	<b>112</b>	<b>222</b>	<b>335</b>	
<b>Total OY 2 PCE Trip Generation<sup>9</sup></b>	<b>2712.040</b>	<b>6315</b>	<b>282</b>	<b>73</b>	<b>355</b>	<b>159</b>	<b>294</b>	<b>453</b>	

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

<sup>1</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition, 2017*. Land Use Code 154 - High-Cube Transport and Short-Term Storage Warehouse.

<sup>2</sup> Trip rates from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019. In/Out splits from the Institute of Transportation Engineers, *Trip Generation, 10th Edition, 2017*. Land Use Code 155 - High-Cube Fulfillment Center Warehouse.

<sup>3</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition, 2017*. Land Use Code 130 - Industrial Park.

<sup>4</sup> Vehicle Mix from the City of Fontana, *Truck Trip Generation Study*, August 2003. Classification: Heavy Warehouse.

<sup>5</sup> Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

<sup>6</sup> Vehicle Mix from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019. 2-4 Axle trucks were separated out, assuming equal amount of each.

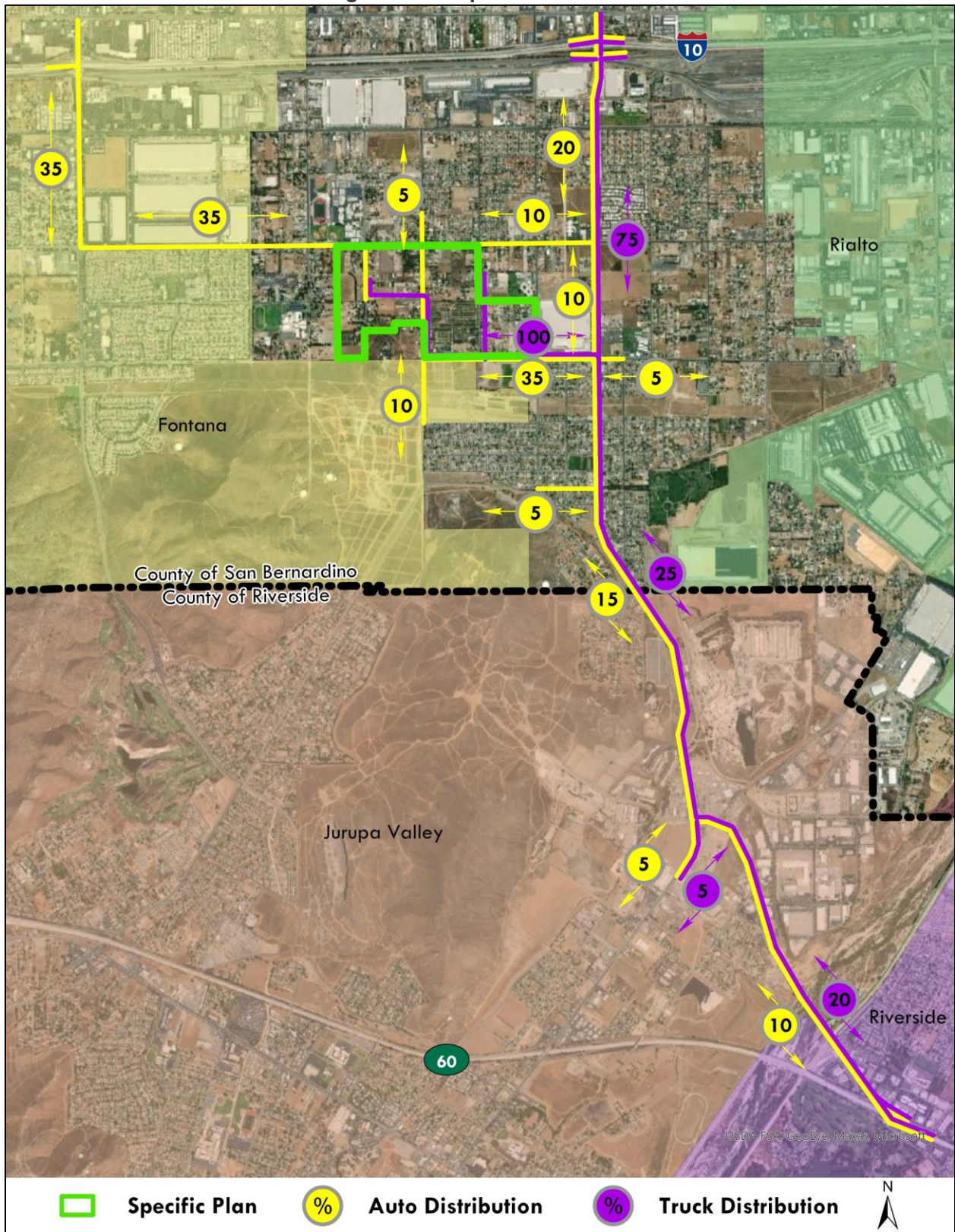
<sup>7</sup> Vehicle Mix from the City of Fontana, *Truck Trip Generation Study*, August 2003. Classification: Light Industrial.

<sup>8</sup> Opening Year Development of Planning Area A Option 1 (OY 1) includes Phase 1 and Phase 2 Development.

<sup>9</sup> Opening Year Development of Planning Area A Option 2 (OY 2) includes Phase 1 and Phase 2 Development as well as the Future Fulfillment Center.

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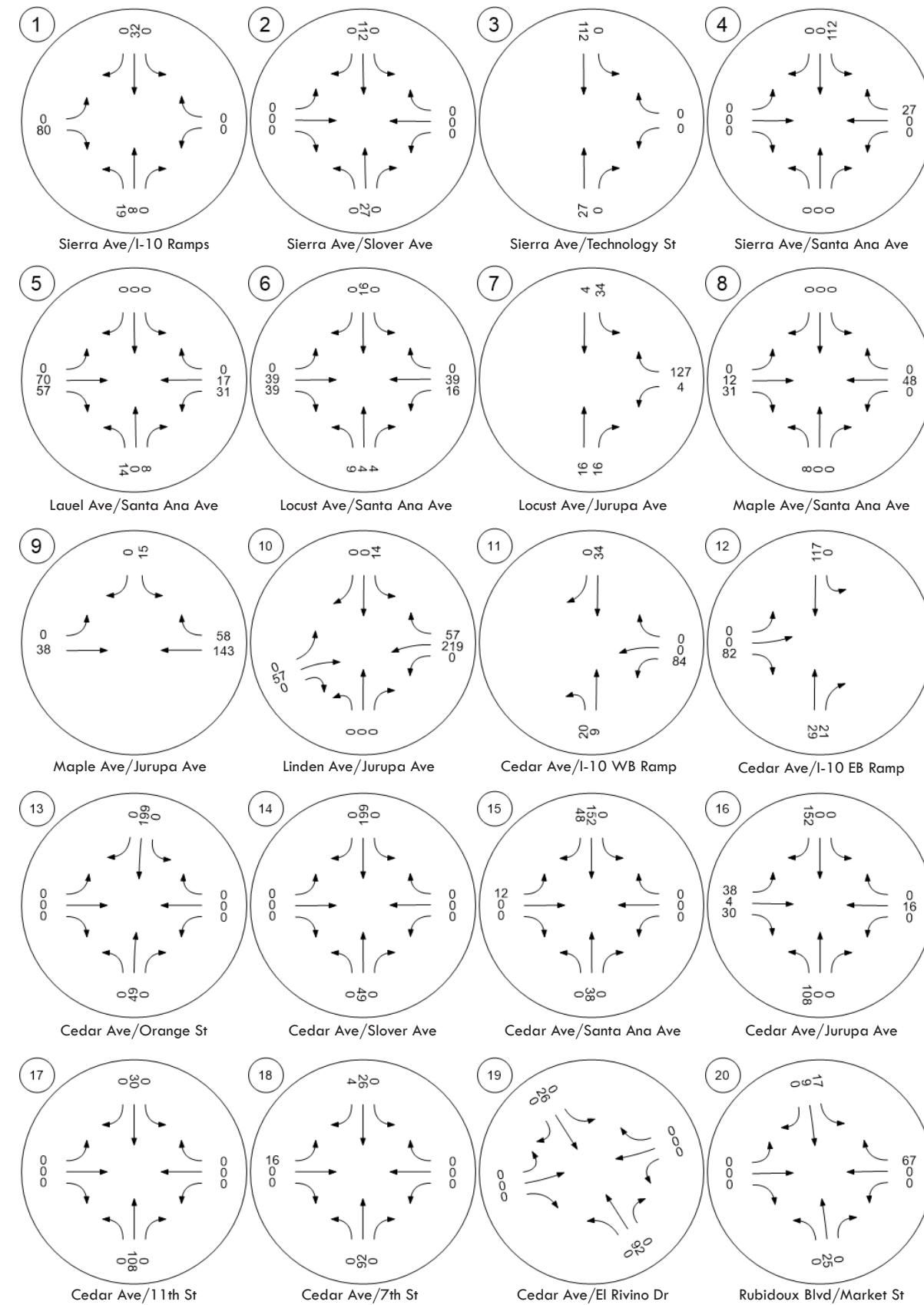
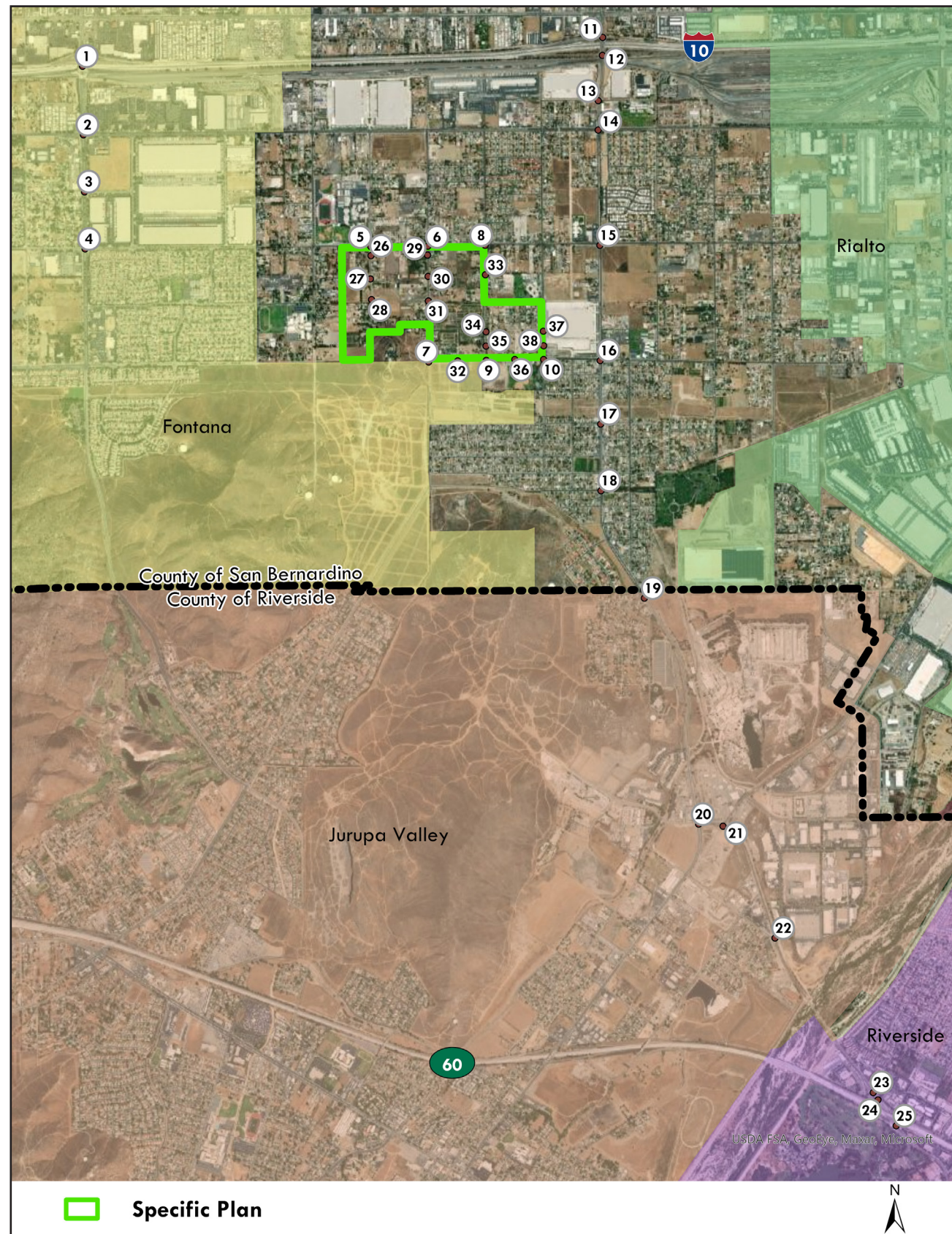
Figure 14: Project Distribution



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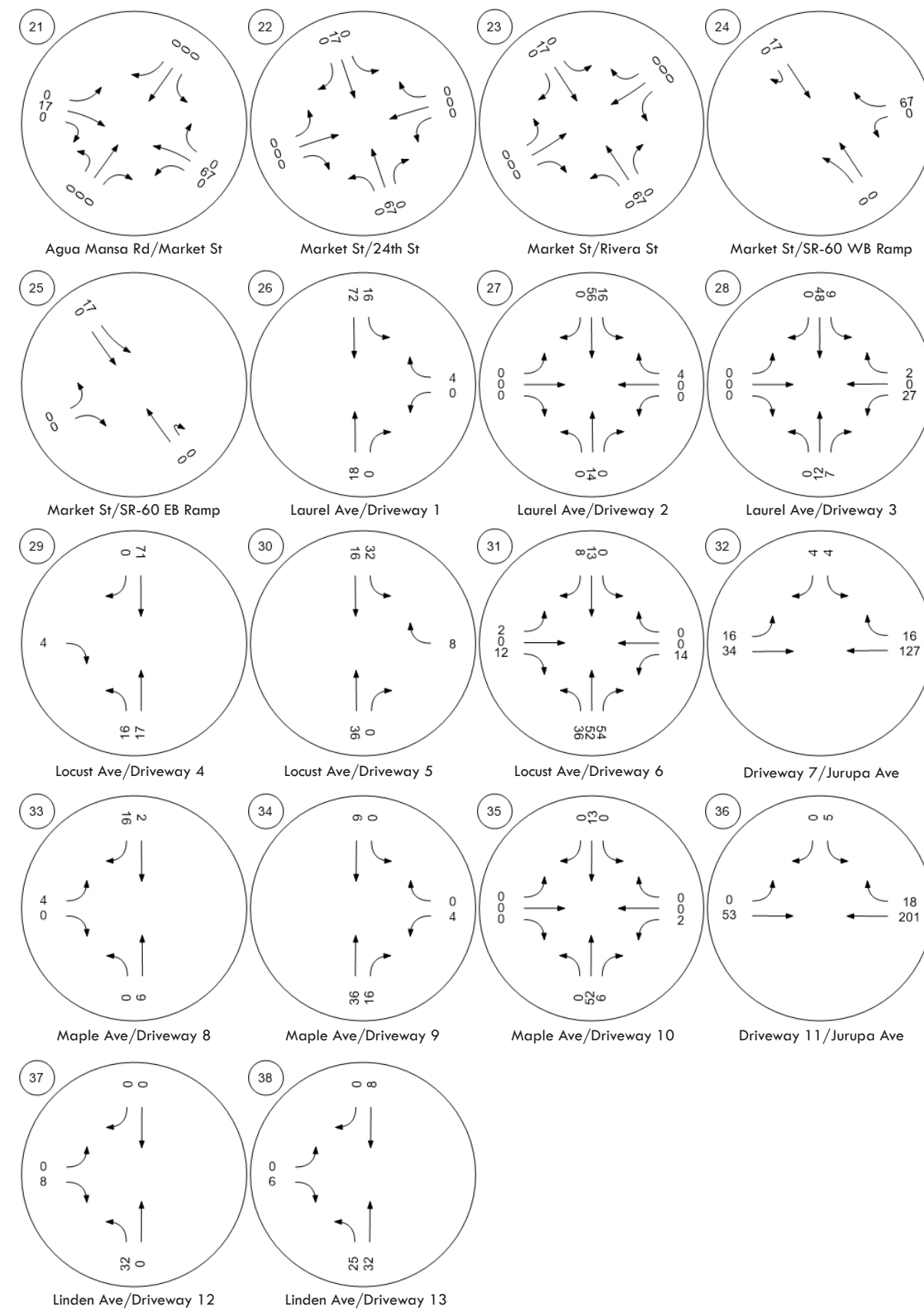
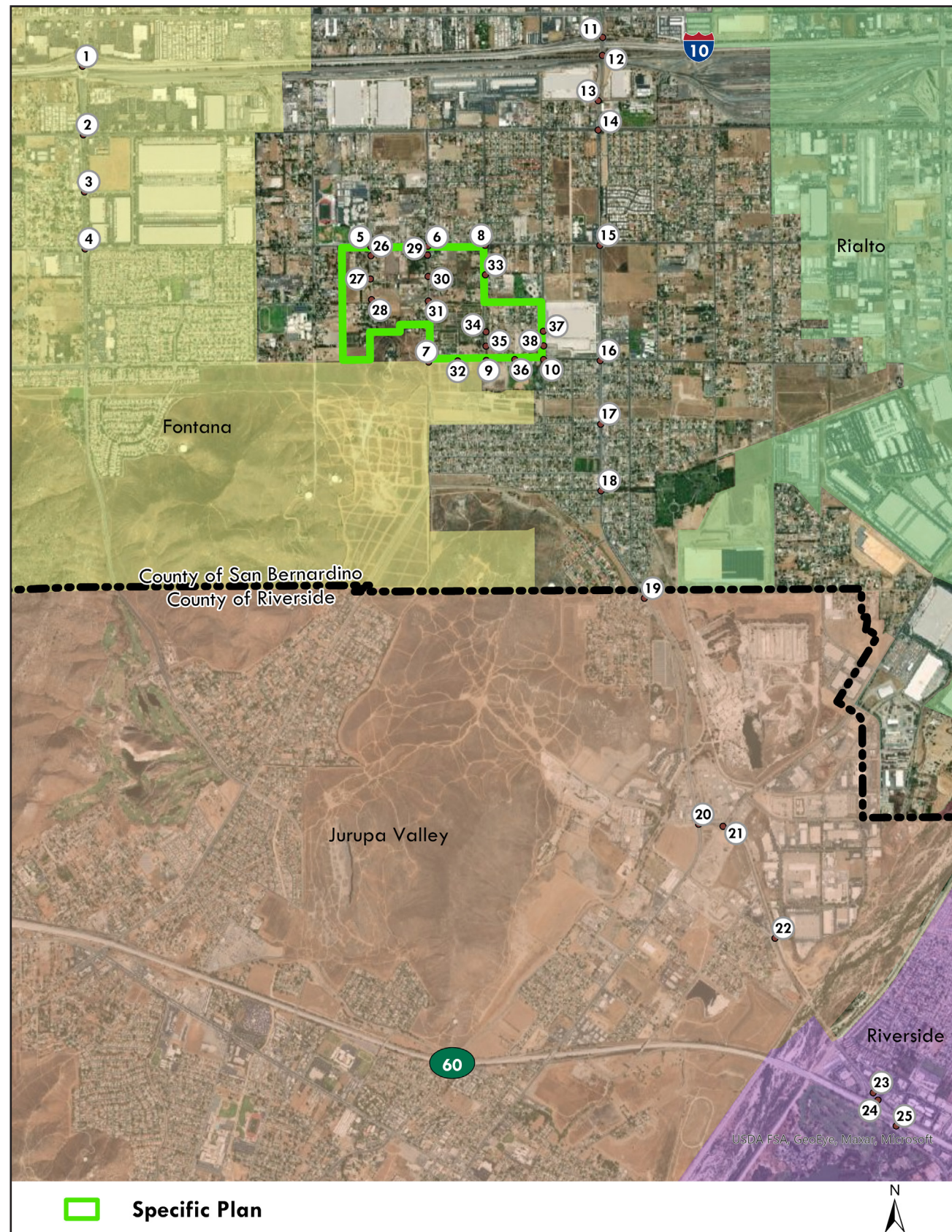
Figure 15a: Total Specific Plan AM Assignment



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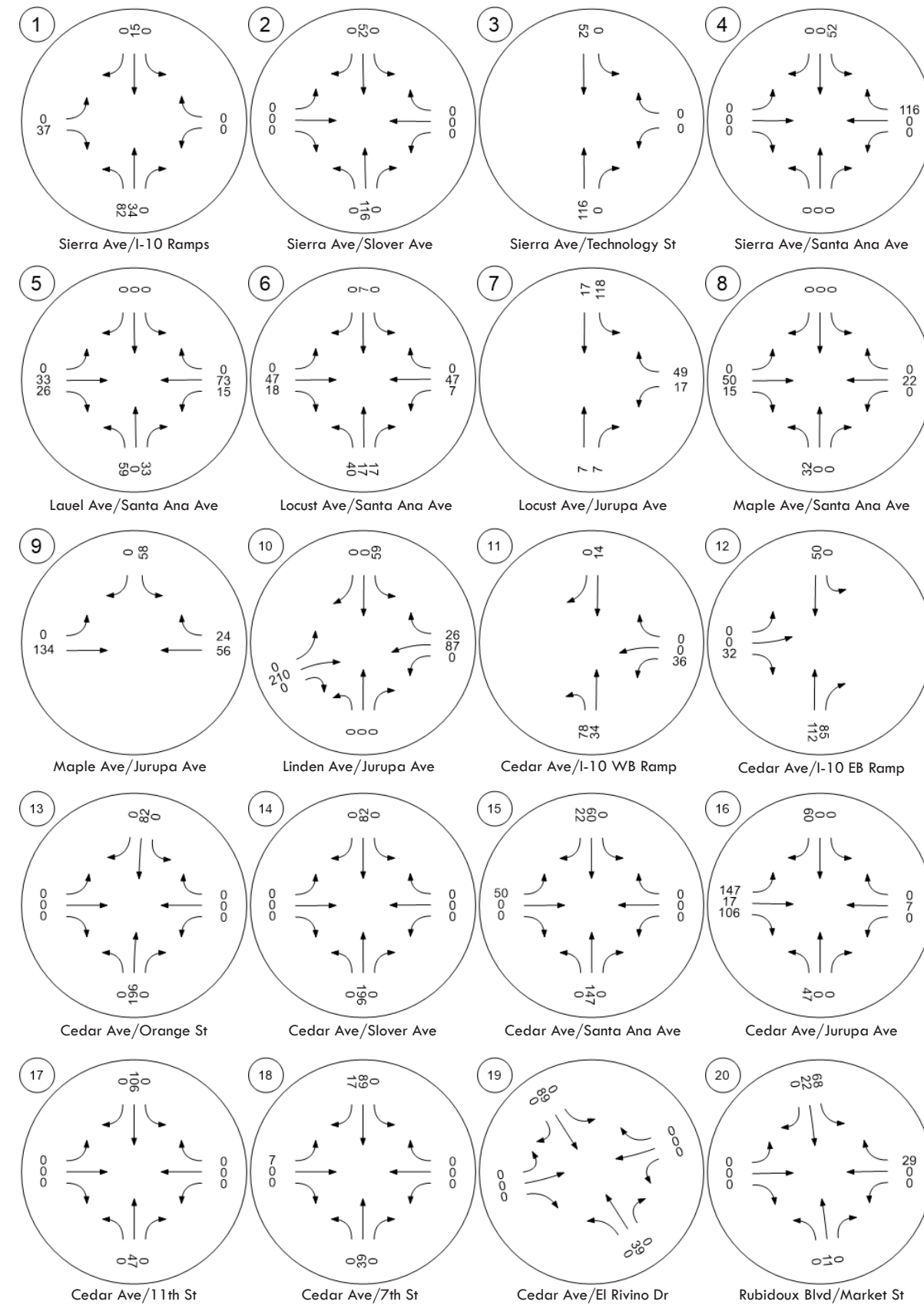
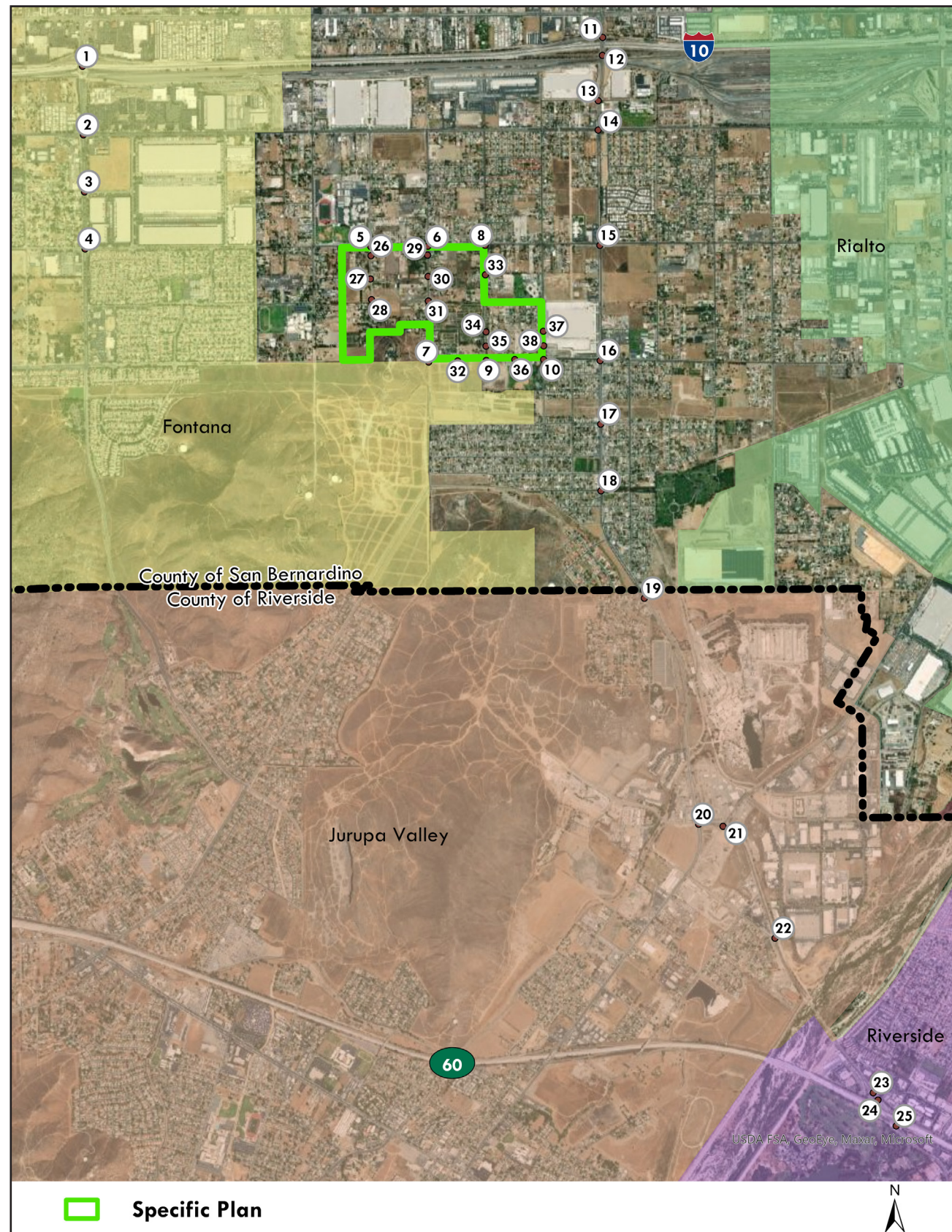


Figure 15b Total Specific Plan AM Assignment



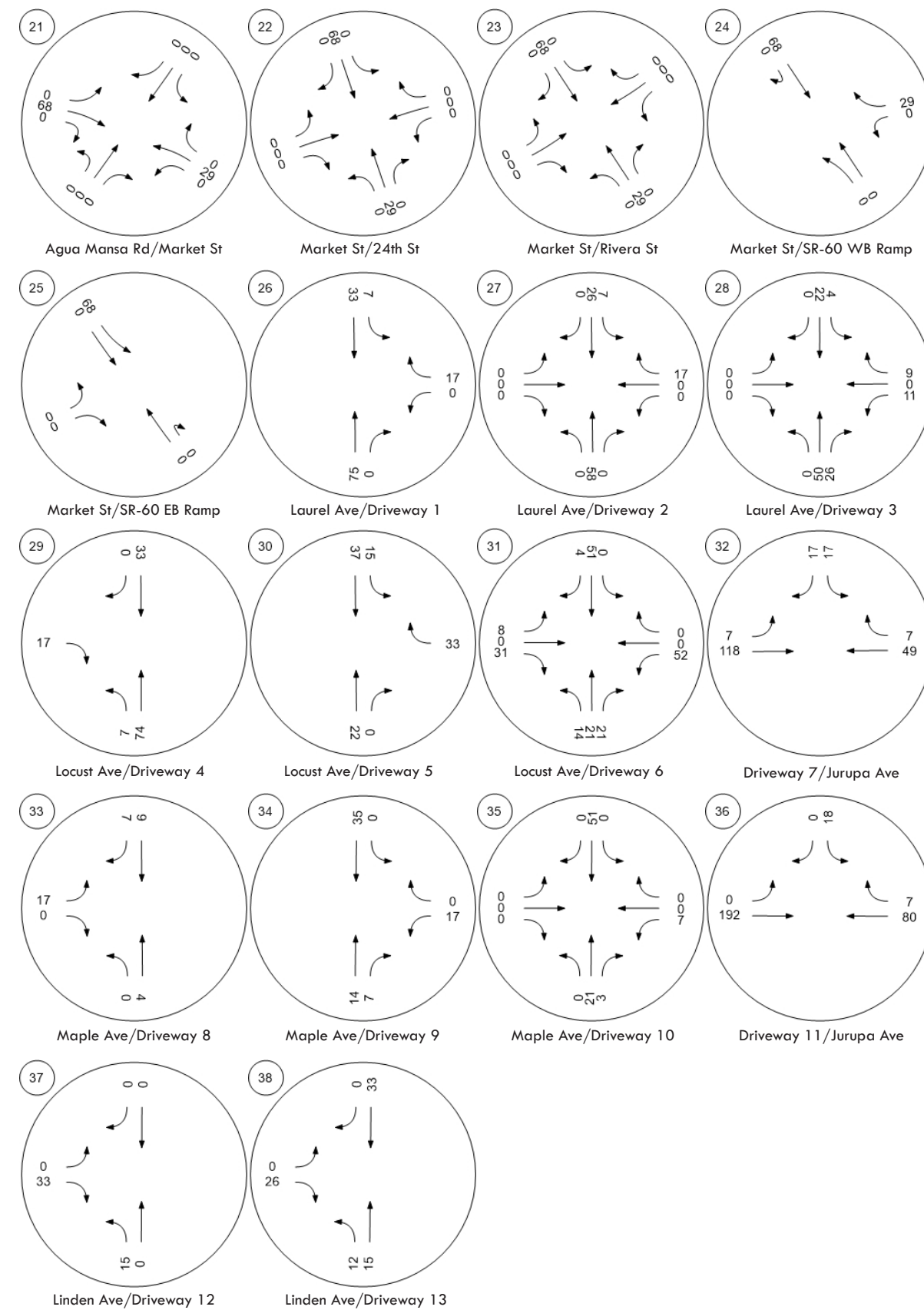
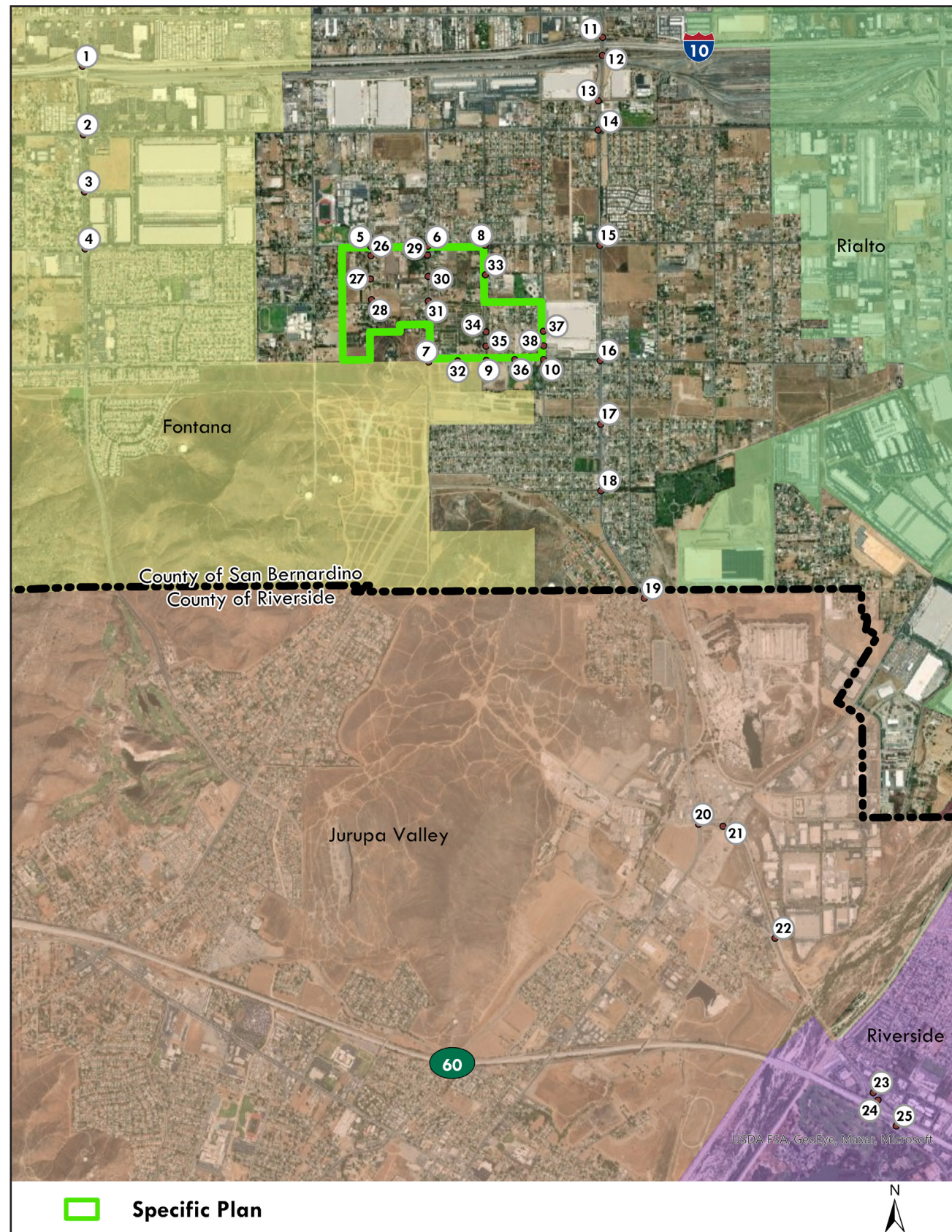
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Figure 16a: Total Specific Plan PM Assignment



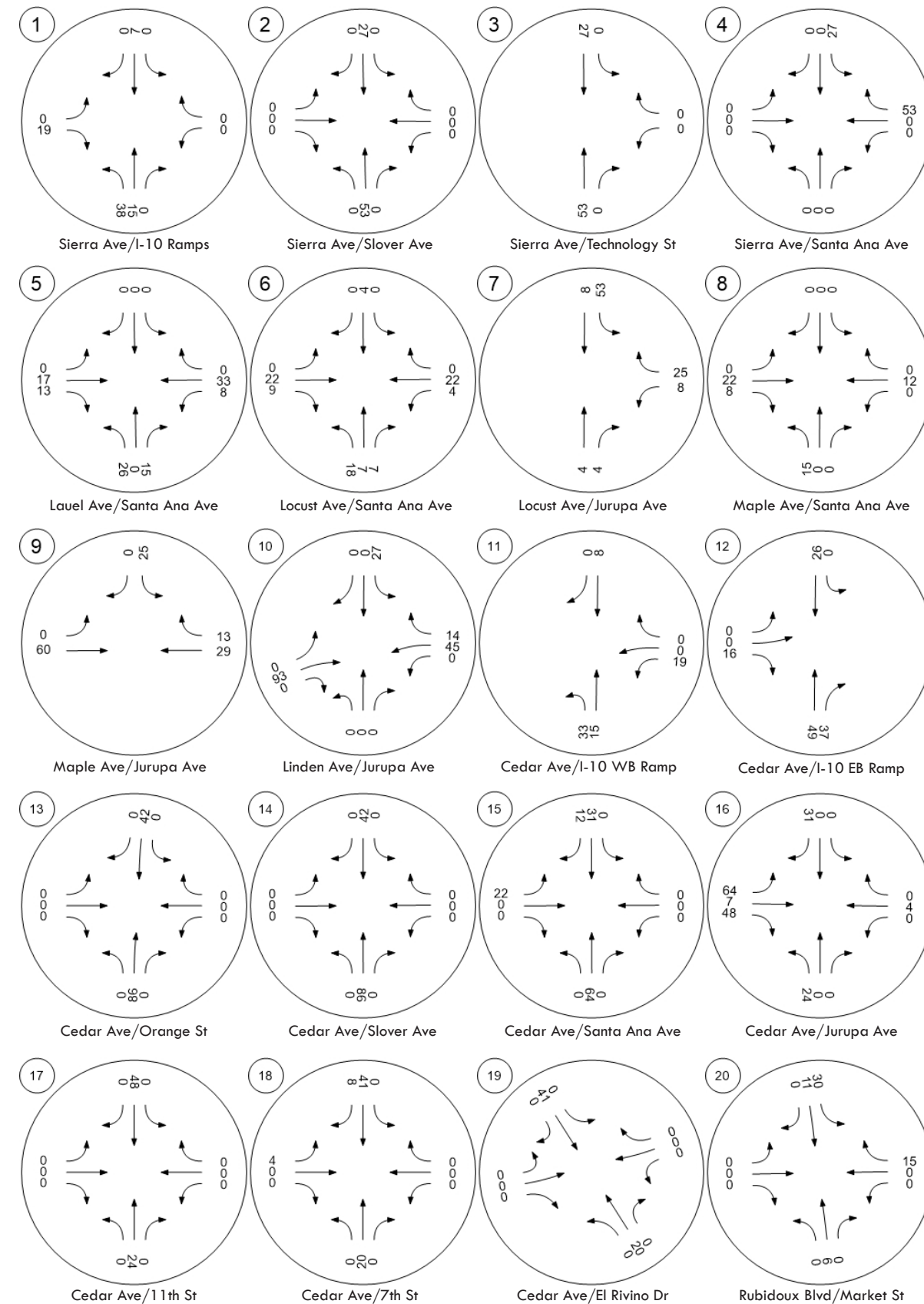
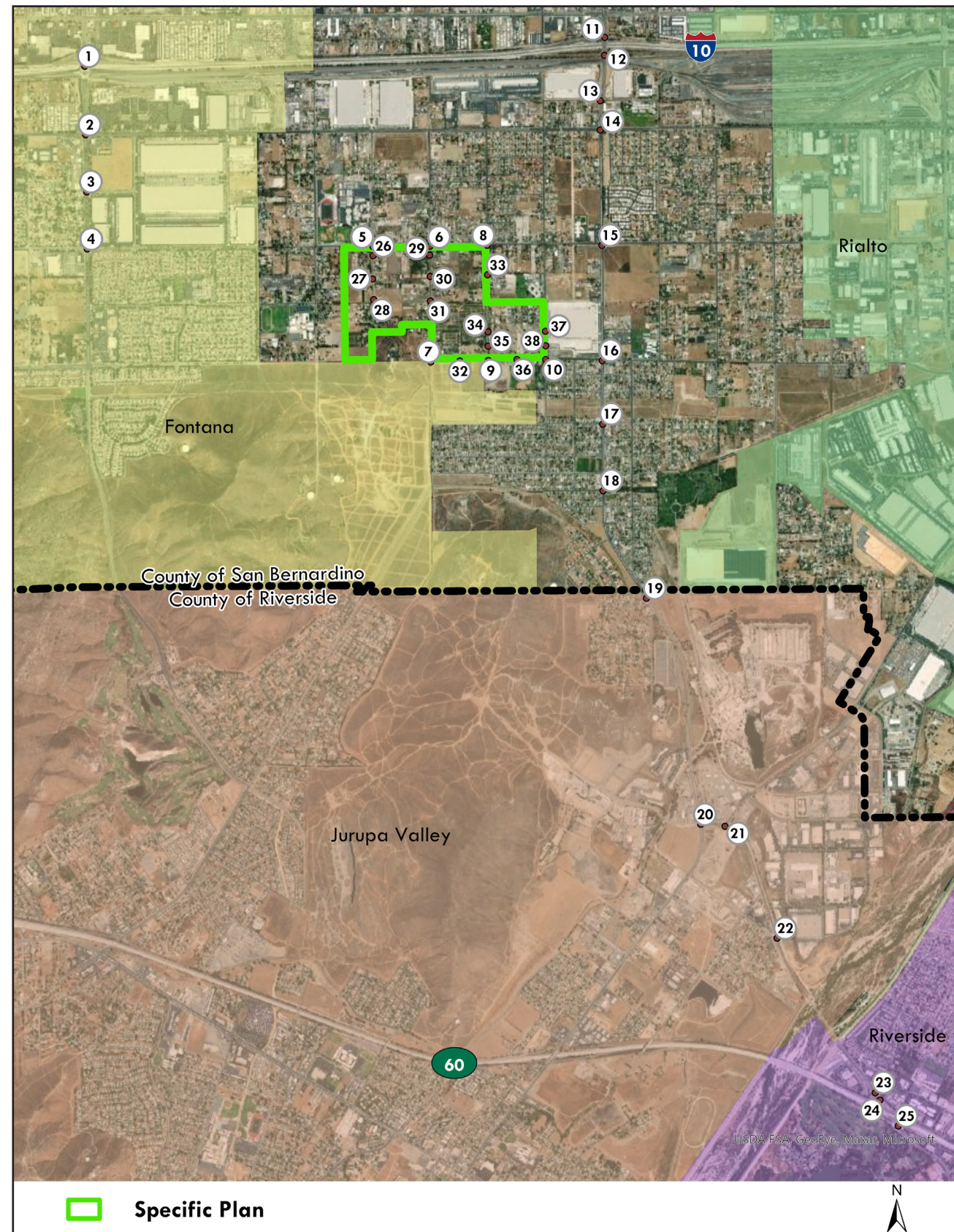
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Figure 16b: Total Specific Plan PM Assignment



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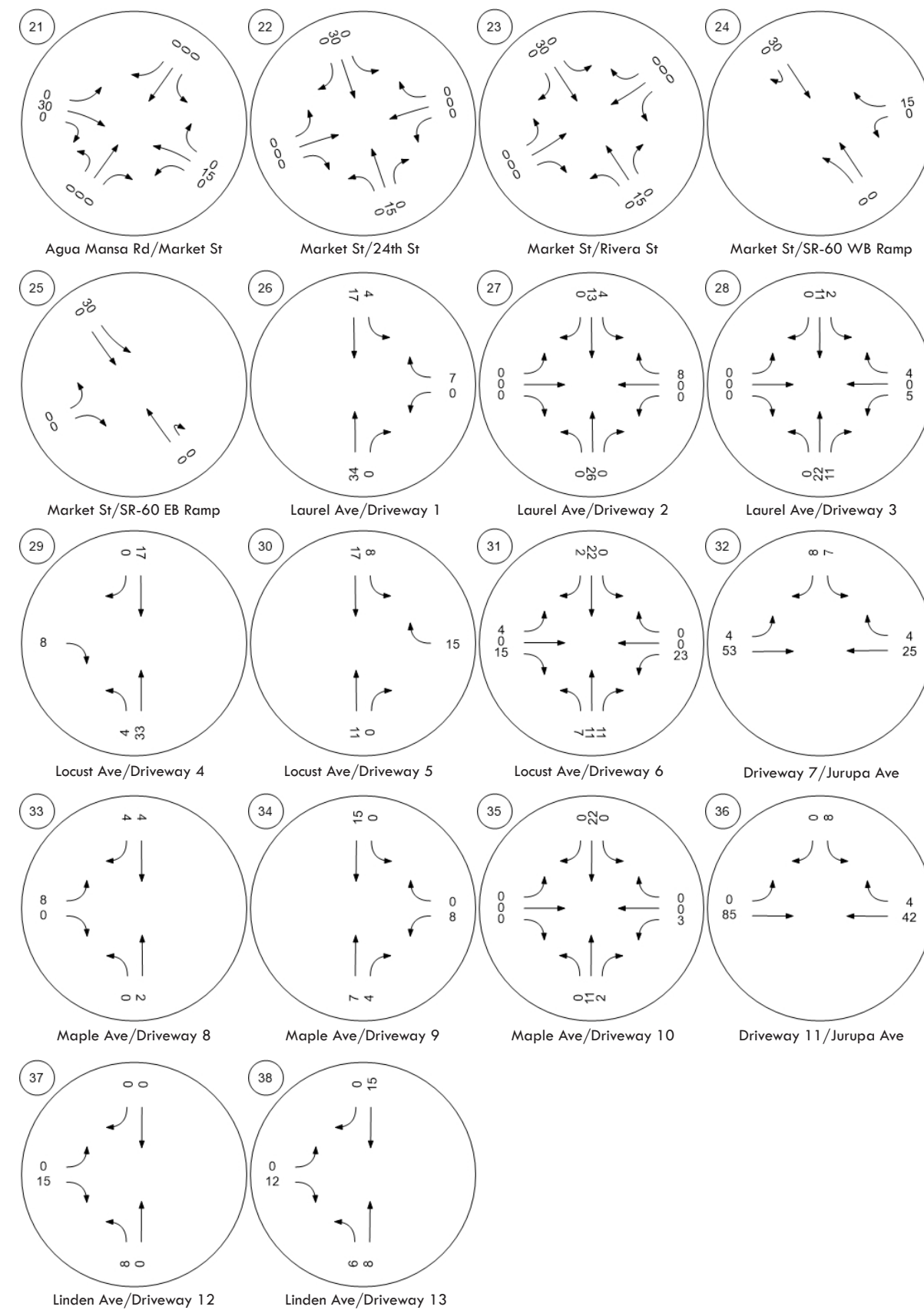
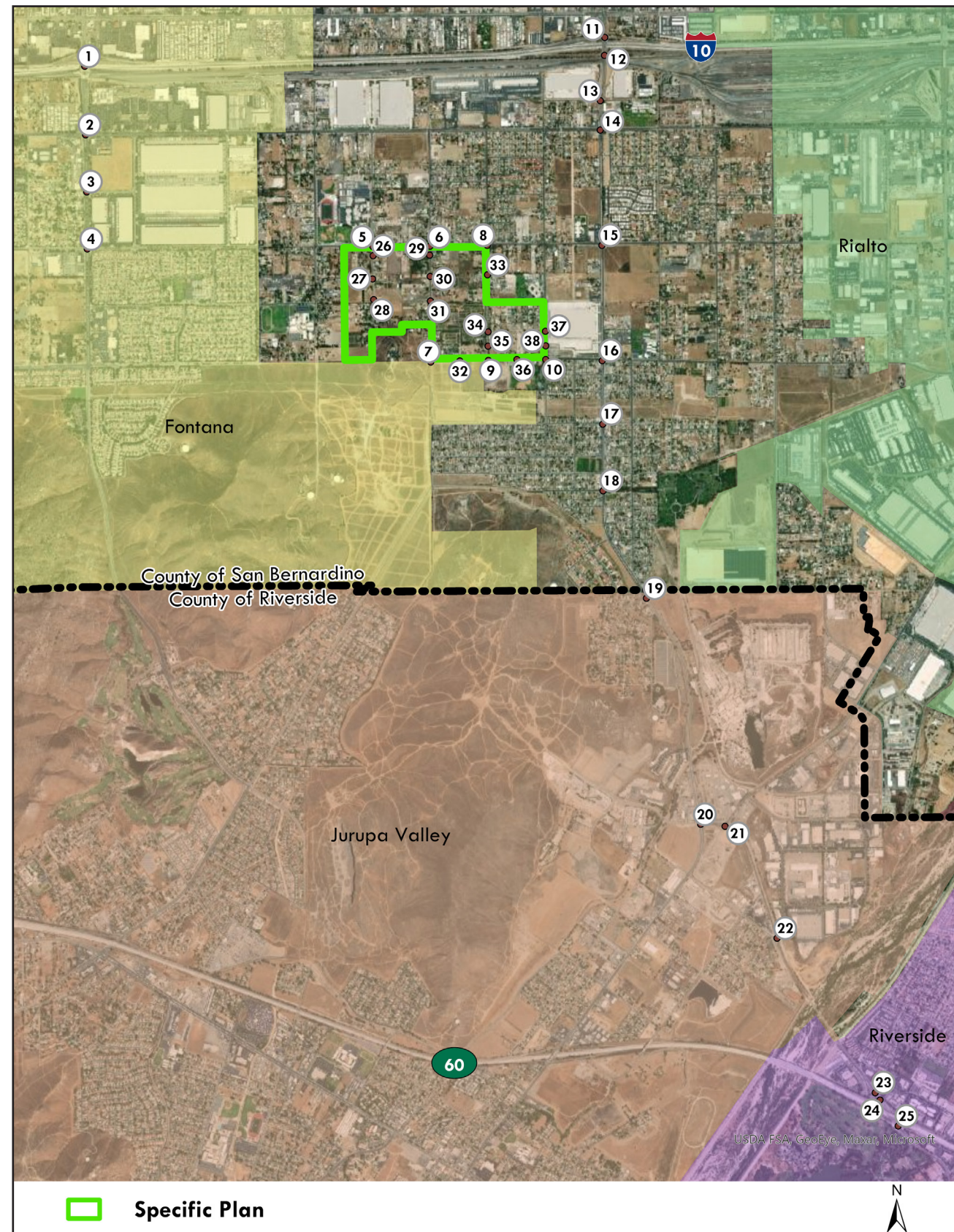
Figure 17a: Total Opening Year Development of Planning Area A Option 1 Assignment AM



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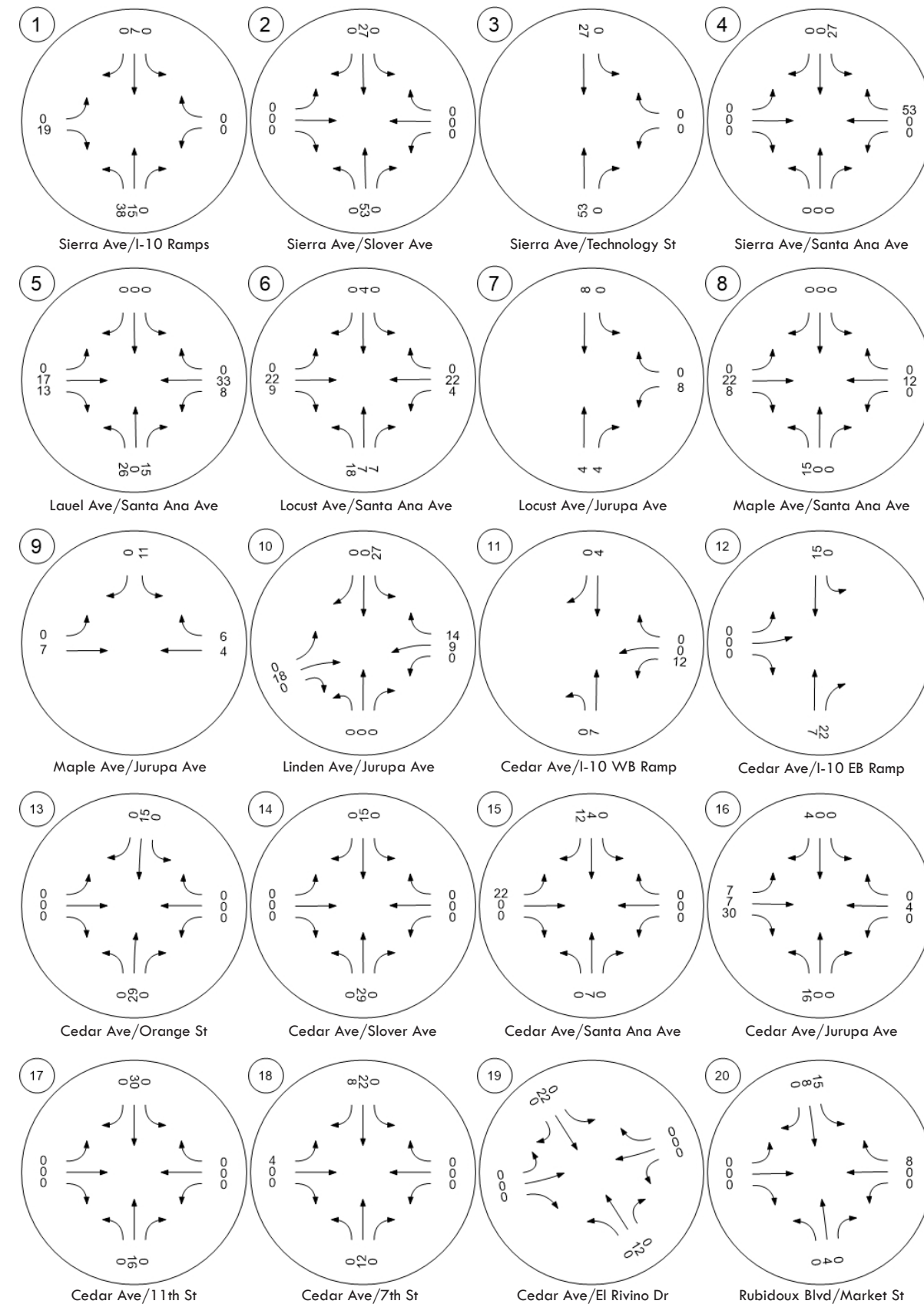
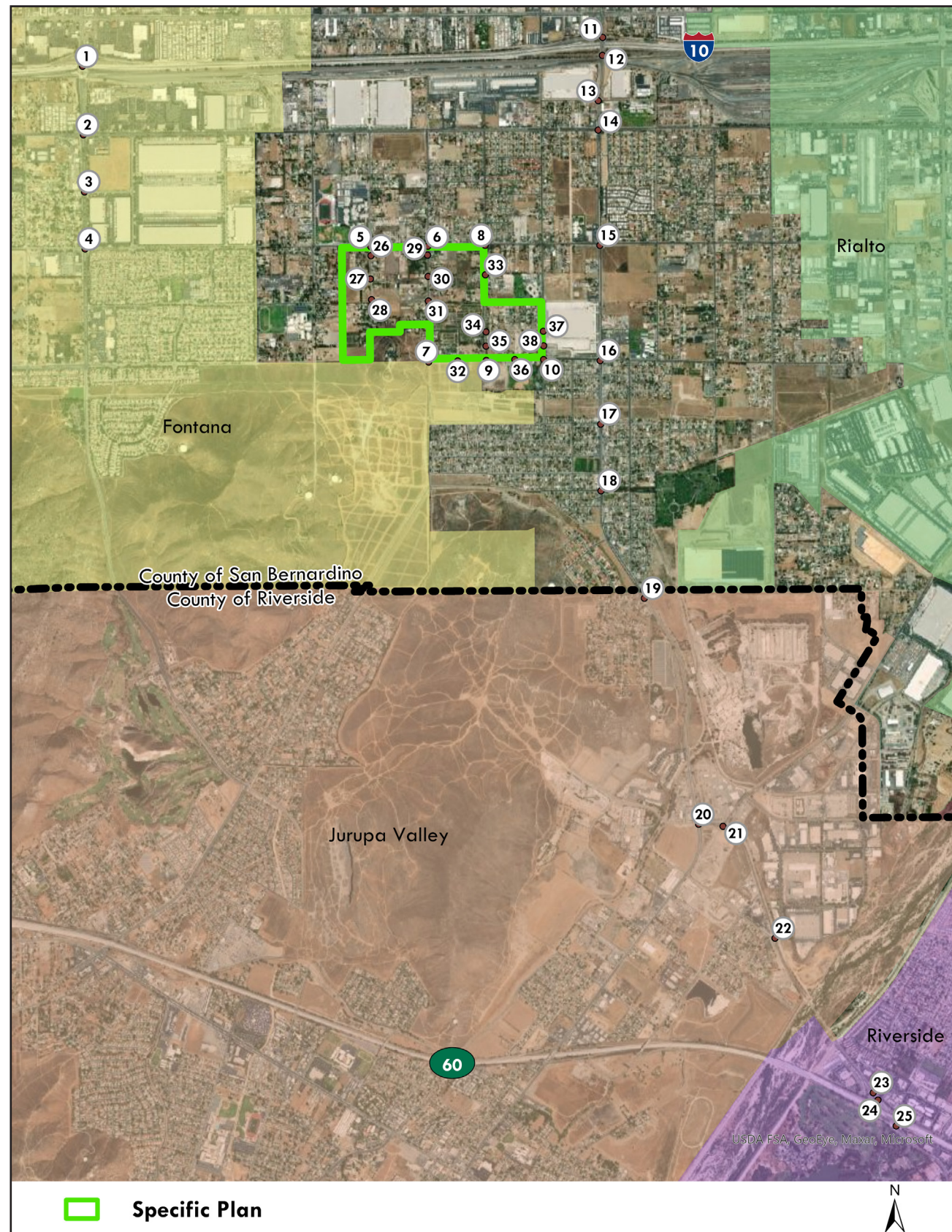


Figure 17b: Total Opening Year Development of Planning Area A Option 1 Assignment AM



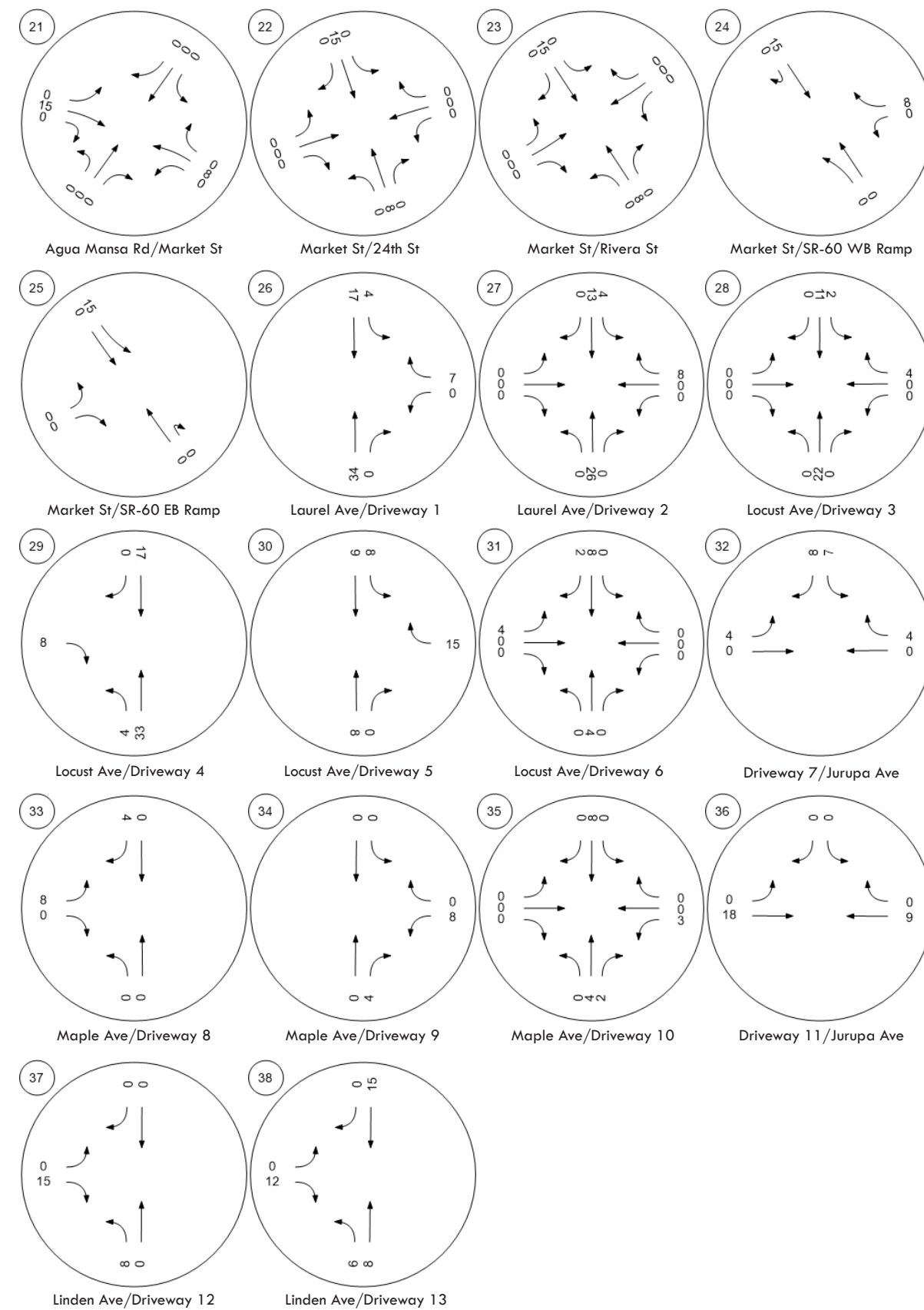
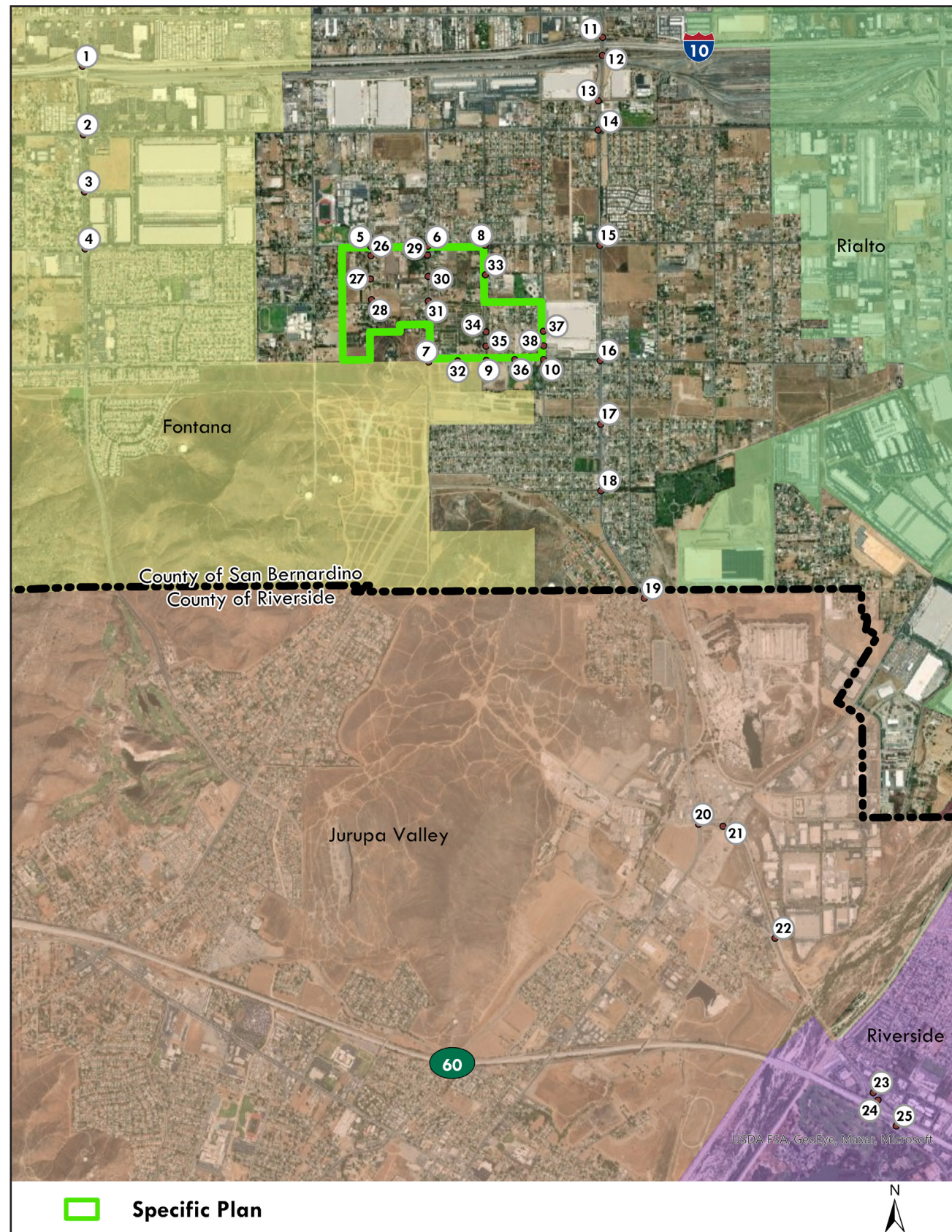
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Figure 18a: Total Opening Year Development of Planning Area A Option 1 Assignment PM



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Figure 18b: Total Opening Year Development of Planning Area A Option 1 Assignment PM



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## 5 PROJECT IMPACTS

### 5.1 Existing Plus Specific Plan Traffic Volumes and Intersection Operations

The Existing plus Specific Plan volumes were developed by adding the specific plan trip assignment to the existing traffic volumes. The Existing plus Specific Plan traffic volumes are shown in Figures 19 and 20. Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 13 shows the Existing plus Specific Plan AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix D. As shown in Table 13, the following three intersections would have a significant impact with addition of the project.

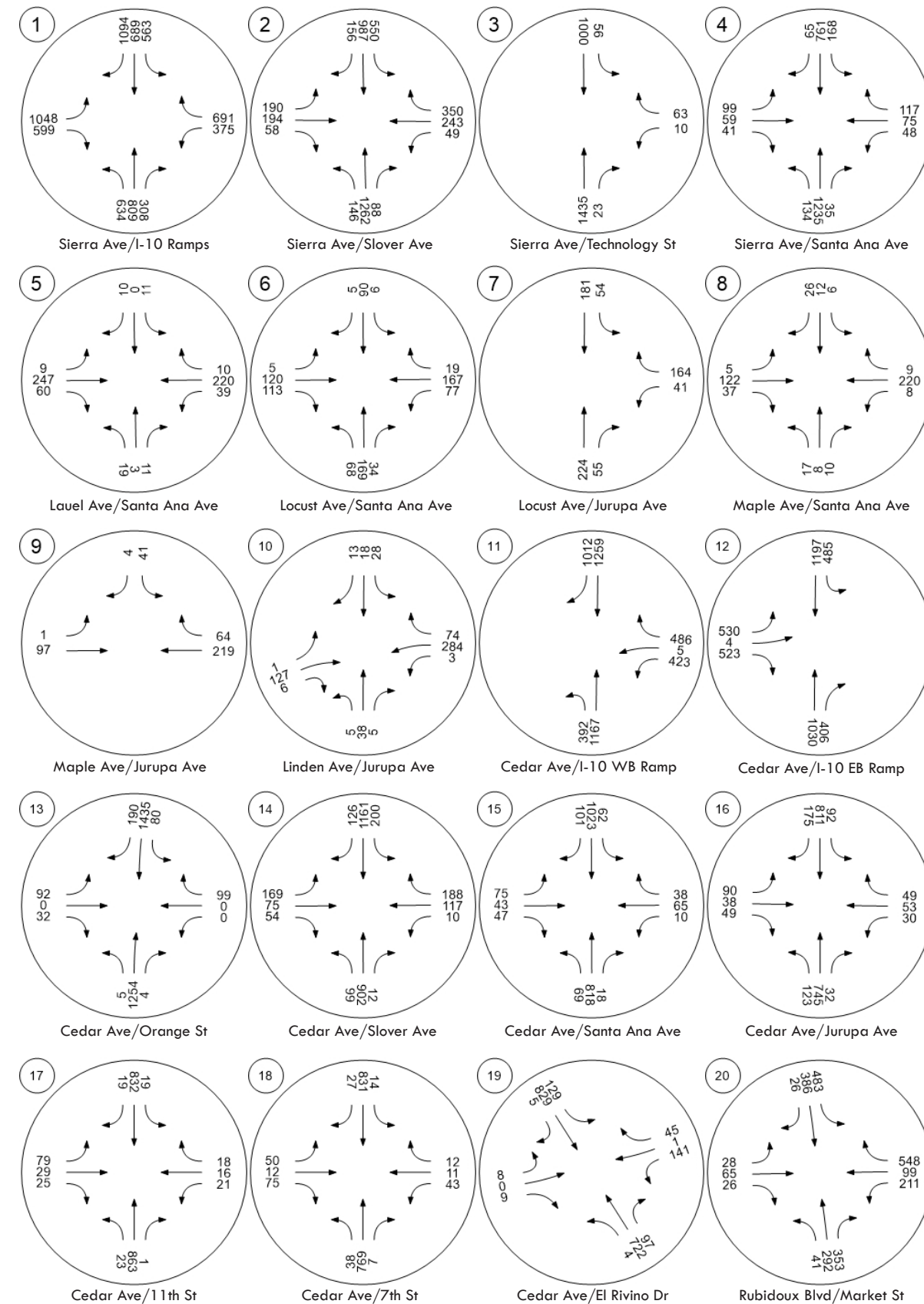
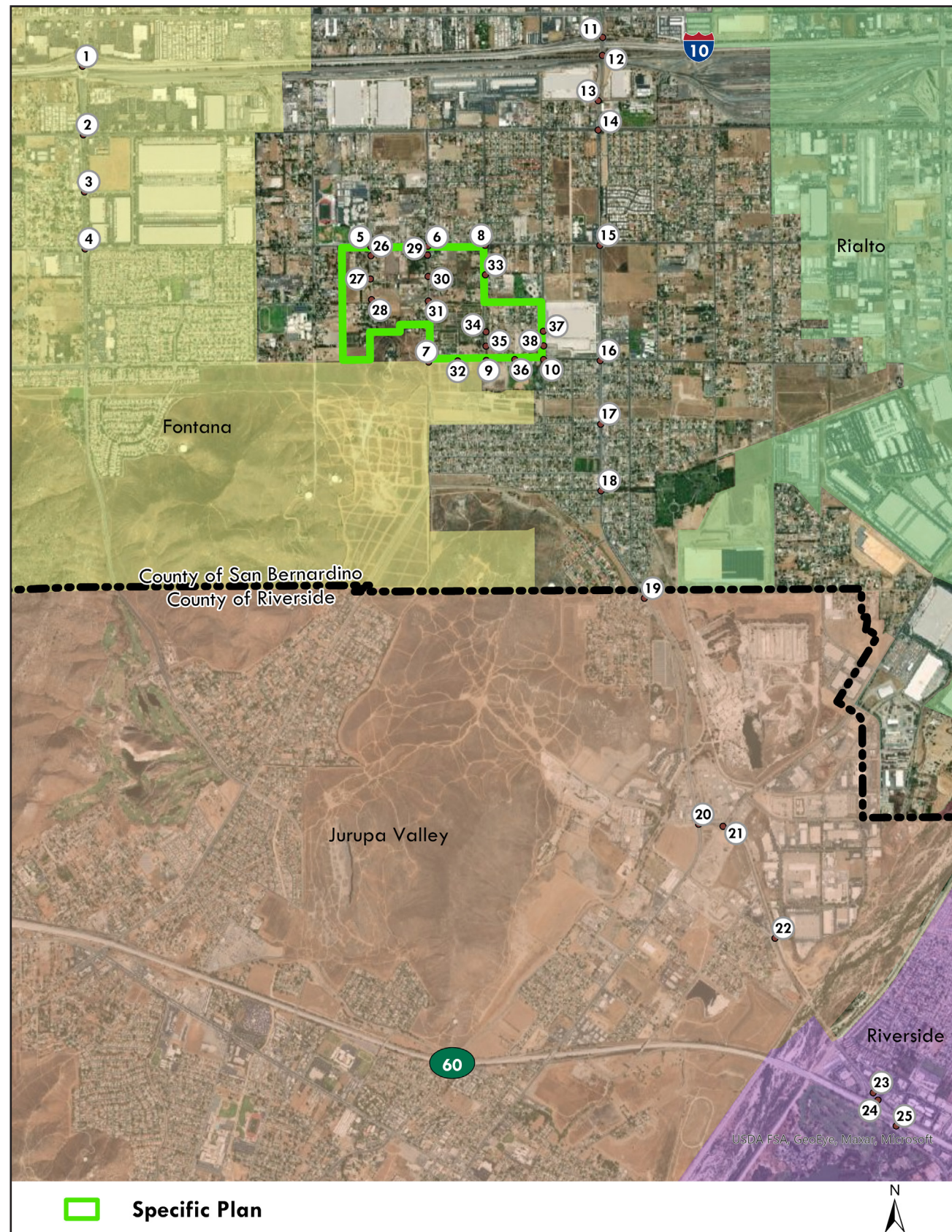
- #6 – Locust Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)
- #7 – Locust Ave/Jurupa Ave (PM Peak Hour) (50% County of San Bernardino, 50% City of Fontana)
- #16 – Cedar Ave/Jurupa Ave (PM Peak Hour) (100% County of San Bernardino)

Mitigation for the impacted intersections is discussed in Section 6 Project Mitigation and Fair Share.

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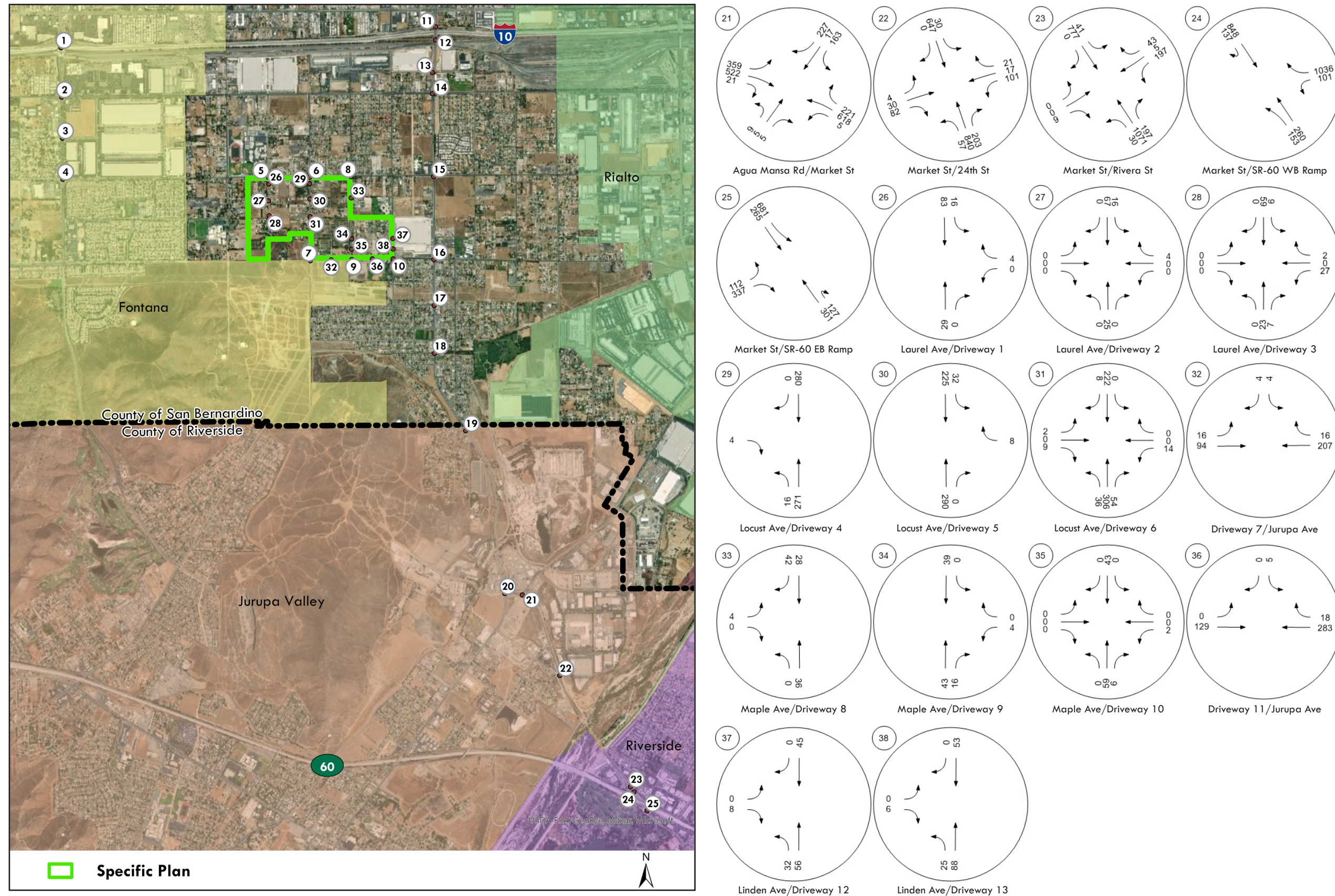


Figure 19a: Existing plus Specific Plan AM Peak Hour Volumes



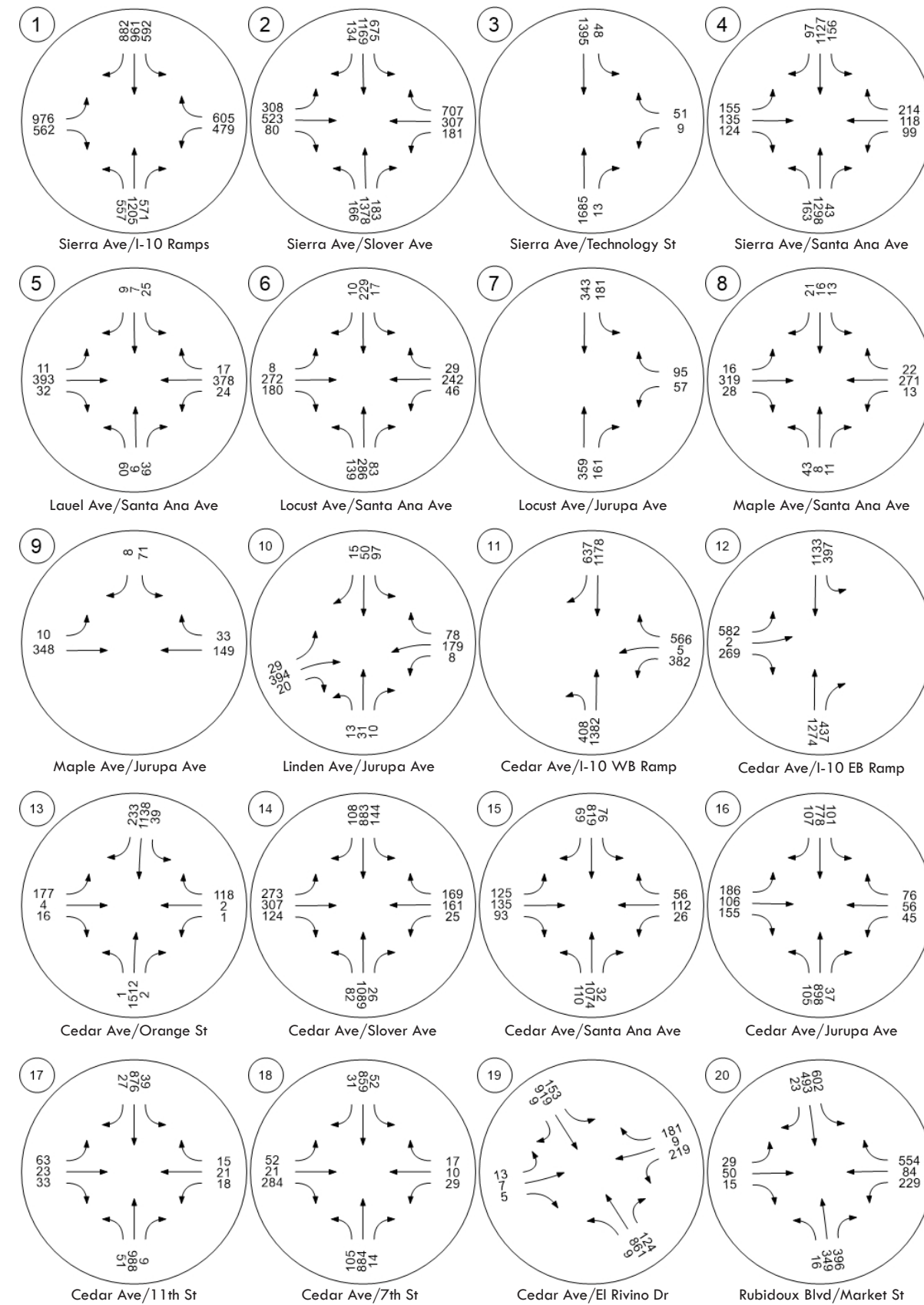
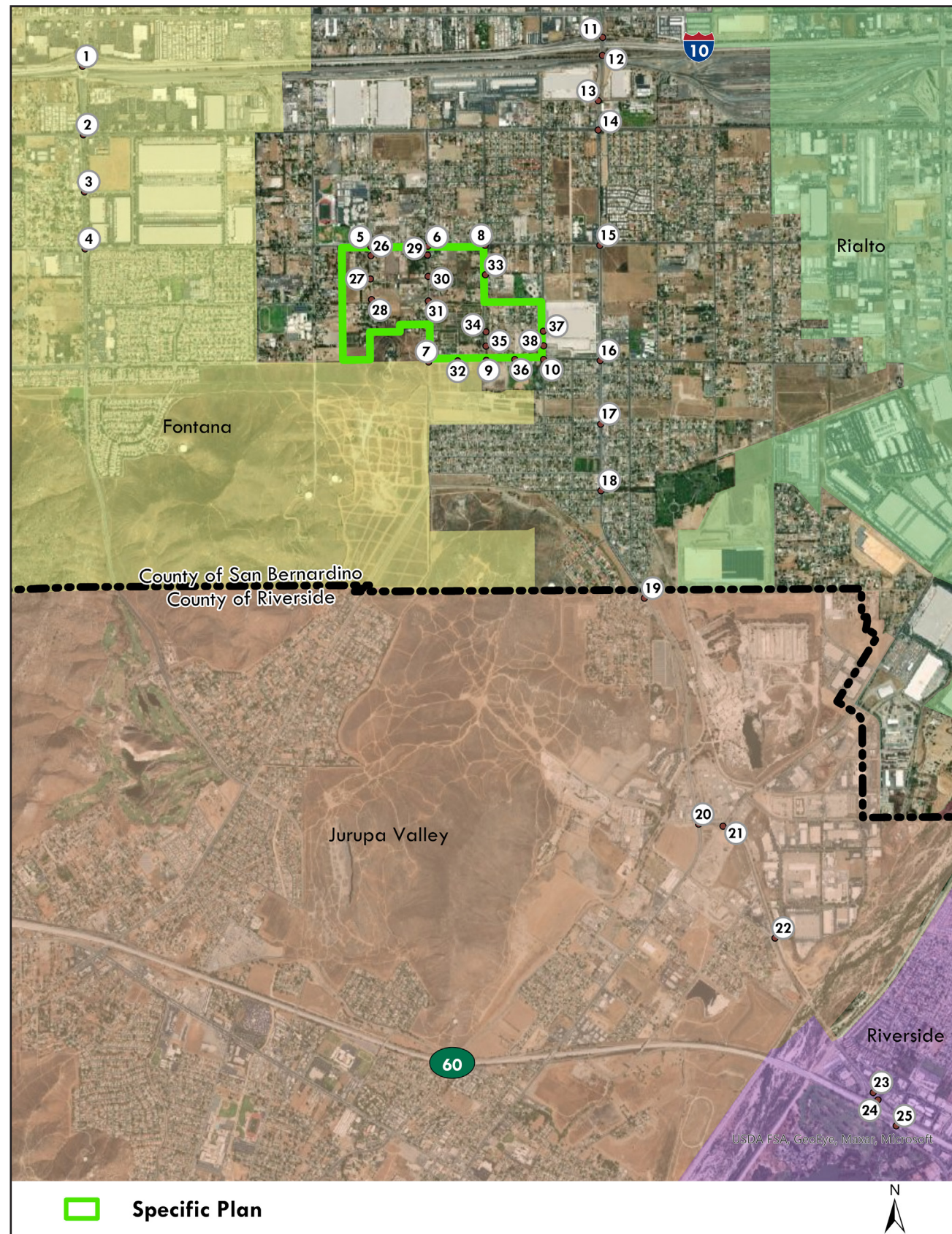
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Figure 19b: Existing plus Specific Plan AM Peak Hour Volume



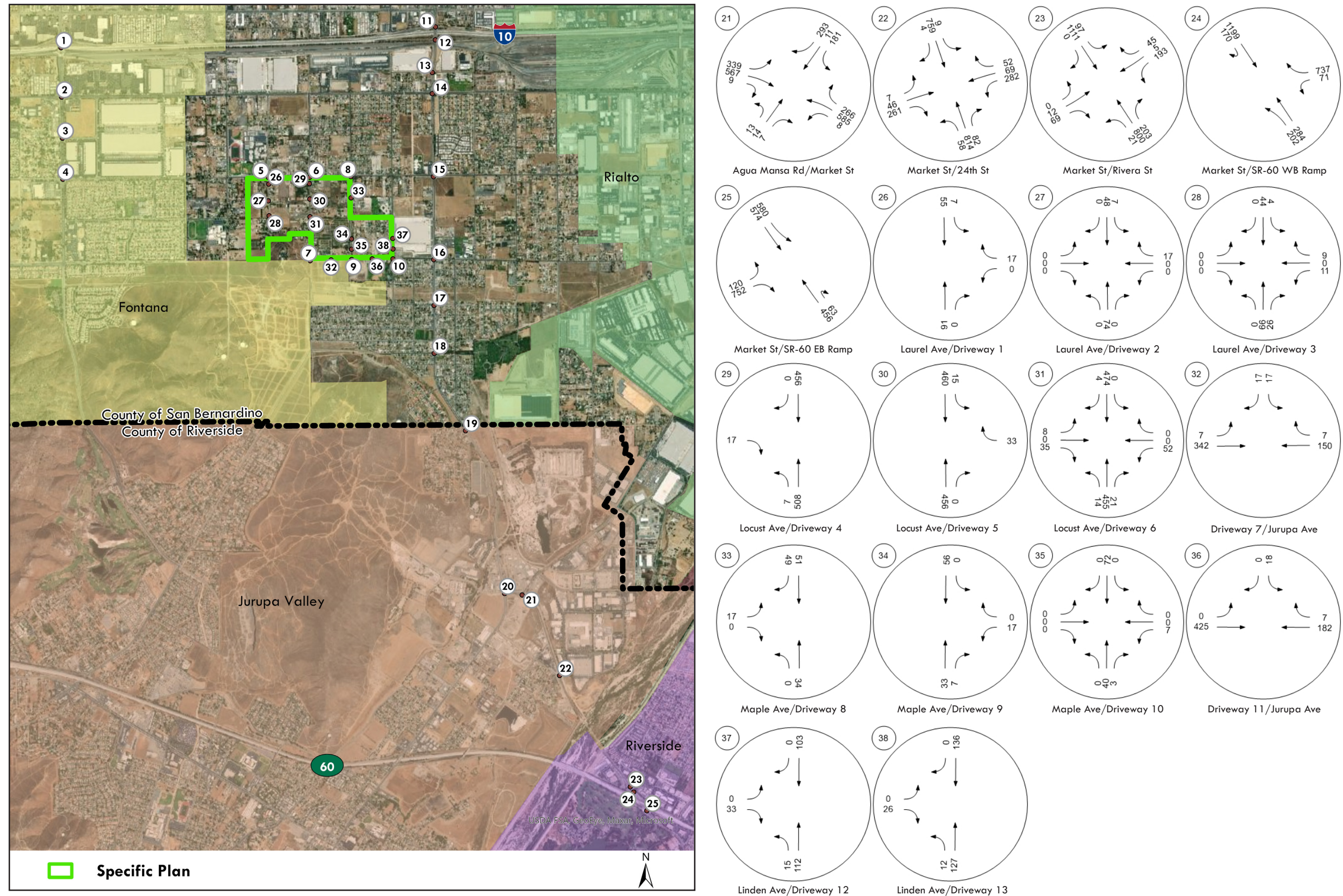
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Figure 20a: Existing plus Specific Plan PM Peak Hour Volume



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Figure 20b: Existing plus Specific Plan PM Peak Hour Volume



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**Table 13. Existing Plus Specific Plan AM and PM Peak Hour Levels of Service**

	Intersection	Location %	Signal Control	Existing				Existing plus Project				Difference		Impact?	
				AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
				Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>				
1.	Sierra Ave/I-10 Ramps	50F/50C	Signal	35.9	D	33.0	C	36.0	D	33.6	C	0.1	0.6	No	No
2.	Sierra Ave/Slover Ave	100 F	Signal	31.0	C	38.5	D	30.5	C	38.3	D	-0.5	-0.2	No	No
3.	Sierra Ave/Technology St	100 F	Signal	4.5	A	3.7	A	4.4	A	3.7	A	-0.1	0.0	No	No
4.	Sierra Ave/Santa Ana Ave	100 F	Signal	16.3	B	19.9	B	19.0	B	22.7	C	2.7	2.8	No	No
5.	Laurel Ave/Santa Ana Ave	100 SB	AWSC	8.8	A	11.0	B	10.4	B	14.6	B	1.6	3.6	No	No
6.	Locust Ave/Santa Ana Ave	100 SB	AWSC	10.7	B	36.9	E	12.7	B	>50	F	2.0	47.0	No	Yes
7.	Locust Ave/Jurupa Ave	50SB/50F	TWSC	12.6	B	21.2	C	15.7	C	45.3	E	3.1	24.1	No	Yes
8.	Maple Ave/Santa Ana Ave	100 SB	TWSC	11.5	B	15.8	C	12.5	B	19.1	C	1.0	3.3	No	No
9.	Maple Ave/Jurupa Ave	100 SB	TWSC	9.8	A	10.8	B	12.8	B	14.3	B	3.0	3.5	No	No
10.	Linden Ave/Jurupa Ave	100 SB	AWSC	7.9	A	9.1	A	10.9	B	14.7	B	3.0	5.6	No	No
11.	Cedar Ave/ I-10 WB Ramps	50SB/50C	Signal	52.1	D	29.0	C	63.8	E	41.0	D	11.7	12.0	No	No
12.	Cedar Ave/ I-10 EB Ramps	50SB/50C	Signal	35.3	D	24.6	C	42.1	D	29.8	C	6.8	5.2	No	No
13.	Cedar Ave/Orange Street	100 SB	Signal	8.0	A	12.8	B	8.3	A	14.6	B	0.3	1.8	No	No
14.	Cedar Ave/Slover Ave	100 SB	Signal	29.7	C	32.3	C	31.0	C	33.6	C	1.3	1.3	No	No
15.	Cedar Ave/Santa Ana Ave	100 SB	Signal	10.9	B	16.6	B	11.4	B	19.8	B	0.5	3.2	No	No
16.	Cedar Ave/Jurupa Ave	100 SB	Signal	16.1	B	24.3	C	32.7	C	>80	F	16.6	69.5	No	Yes
17.	Cedar Ave/11th St	100 SB	Signal	8.3	A	8.9	A	8.3	A	8.9	A	0.0	0.0	No	No
18.	Cedar Ave/7th St	100 SB	Signal	7.8	A	15.4	B	8.2	A	16.0	B	0.4	0.6	No	No
19.	Cedar Ave/El Rivino Dr	100 JV	Signal	12.3	B	18.9	B	12.5	B	19.5	B	0.2	0.6	No	No
20.	Rubidoux Blvd/Market St	100 JV	Signal	36.2	D	42.4	D	37.3	D	47.1	D	1.1	4.7	No	No
21.	Agua Mansa Rd/Market St	100 JV	Signal	24.6	C	23.5	C	24.5	C	23.3	C	-0.1	-0.2	No	No
22.	Market St/24th St	100 JV	Signal	17.5	B	34.7	C	18.3	B	36.5	D	0.8	1.8	No	No
23.	Market St/Rivera St	100 R	Signal	11.4	B	14.0	B	11.5	B	14.0	B	0.1	0.0	No	No
24.	Market St/SR-60 WB Ramp	50R/50C	Signal	10.9	B	10.9	B	10.9	B	11.0	B	0.0	0.1	No	No
25.	Market St/SR-60 EB Ramp	50R/50C	Signal	21.7	C	20.2	C	22.0	C	22.4	C	0.3	2.2	No	No
26.	Laurel Ave/Driveway 1	100 SB	TWSC	-	-	-	-	8.5	A	8.8	A	N/A	N/A	No	No
27.	Laurel Ave/Driveway 2	100 SB	TWSC	-	-	-	-	9.4	A	9.5	A	N/A	N/A	No	No
28.	Laurel Ave/Driveway 3	100 SB	TWSC	-	-	-	-	9.3	A	9.4	A	N/A	N/A	No	No
29.	Locust Ave/Driveway 4	100 SB	TWSC	-	-	-	-	9.8	A	11.3	B	N/A	N/A	No	No
30.	Locust Ave/Driveway 5	100 SB	TWSC	-	-	-	-	9.9	A	11.5	B	N/A	N/A	No	No
31.	Locust Ave/Driveway 6	100 SB	Signal	-	-	-	-	5.3	A	6.2	A	N/A	N/A	No	No
32.	Driveway 7/Jurupa Ave	50SB/50F	TWSC	-	-	-	-	10.7	B	12.4	B	N/A	N/A	No	No
33.	Maple Ave/Driveway 8	100 SB	TWSC	-	-	-	-	8.9	A	9.2	A	N/A	N/A	No	No
34.	Maple Ave/Driveway 9	100 SB	TWSC	-	-	-	-	9.0	A	9.1	A	N/A	N/A	No	No
35.	Maple Ave/Driveway 10	100 SB	TWSC	-	-	-	-	9.1	A	9.2	A	N/A	N/A	No	No
36.	Driveway 11/Jurupa Ave	100 SB	TWSC	-	-	-	-	11.0	B	11.6	B	N/A	N/A	No	No
37.	Linden Ave/Driveway 12	100 SB	TWSC	-	-	-	-	8.5	A	8.9	A	N/A	N/A	No	No
38.	Linden Ave/Driveway 13	100 SB	TWSC	-	-	-	-	8.6	A	9.1	A	N/A	N/A	No	No

= Unsatisfactory Level of Service TWSC = Two-Way Stop Controlled AWSC = Two-Way Stop Controlled

- F Fontana
- C Caltrans
- SB San Bernardino
- JV Jurupa Valley
- R Riverside

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

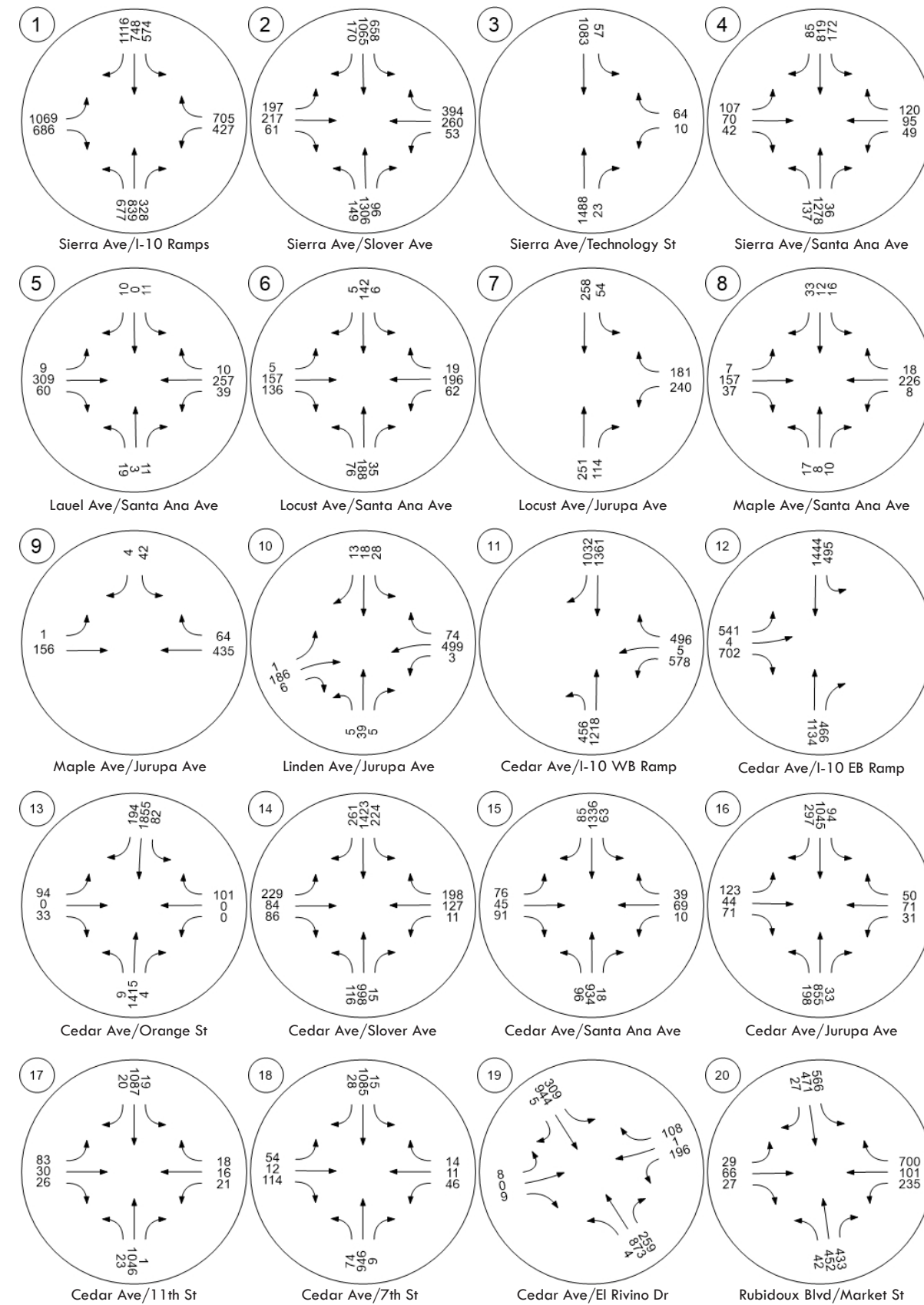
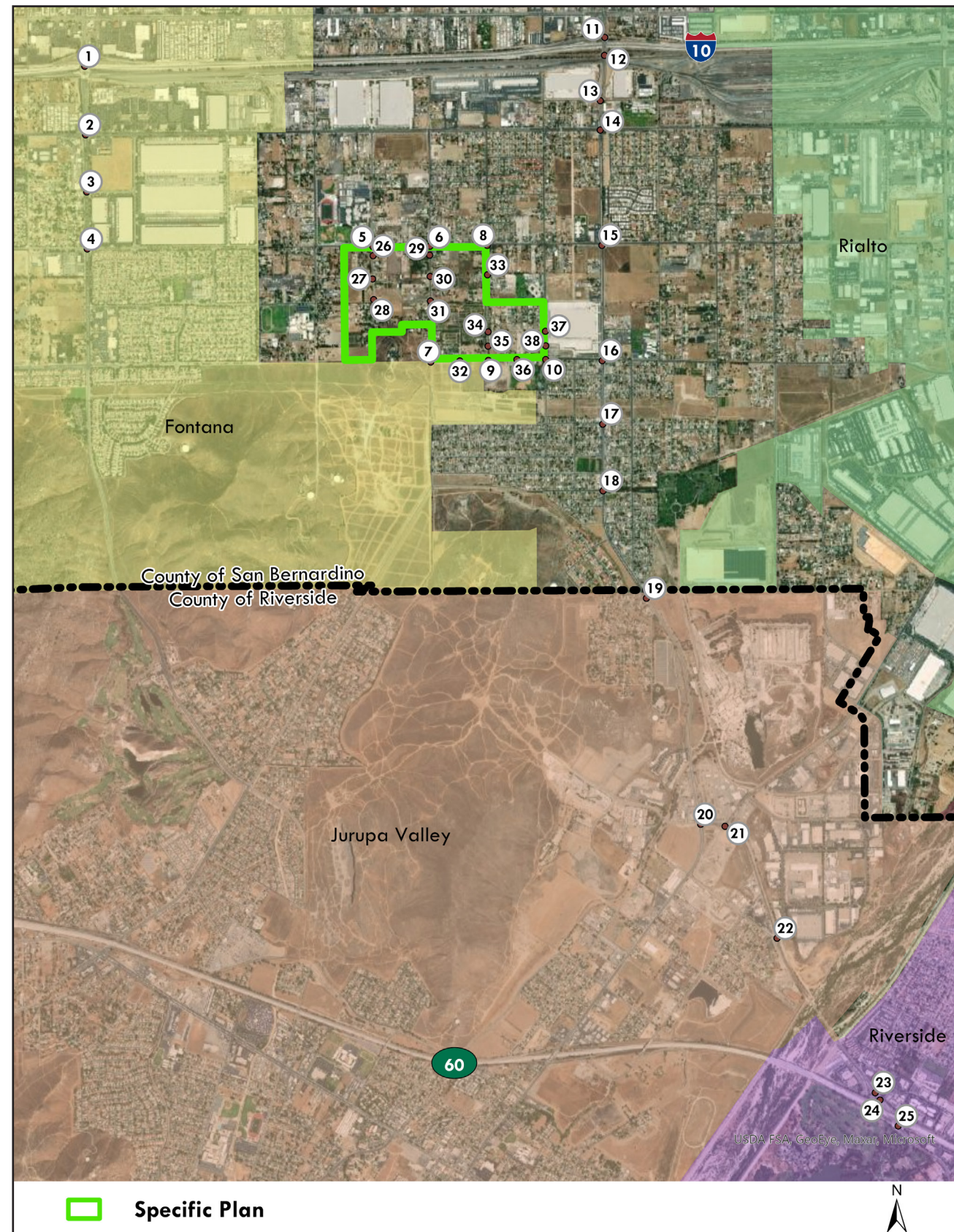
## 5.2 Opening Year plus Specific Plan Traffic Volumes and Intersection Operations

The Opening Year plus Specific Plan traffic volumes were developed by adding the project trip assignment (total Specific Plan) to the Opening Year traffic volumes. The Opening Year plus Specific Plan traffic volumes are shown in Figures 21 and 22. Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 14 shows the Opening Year plus Specific Plan AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix D. As shown in Table 14, the following six intersections would have a significant impact with addition of the project.

- #6 – Locust Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)
- #7 - Locust Ave/Jurupa Ave (AM and PM Peak Hour) (50% County of San Bernardino, 50% City of Fontana)
- #10 – Linden Ave/Jurupa Ave (PM Peak Hour) (100% County of San Bernardino)
- #11 – Cedar Ave/I-10 WB Ramps (AM Peak Hour) (50% County of San Bernardino, 50% Caltrans)
- #14 – Cedar Ave/Slover Ave (PM Peak Hour) (100% County of San Bernardino)
- #16 – Cedar Ave/Jurupa Ave (AM and PM Peak Hour) (100% County of San Bernardino)
- #20 – Rubidoux Blvd/Market St (AM and PM Peak Hour) (100% City of Jurupa Valley)
- #22 – Market St/24<sup>th</sup> St (PM Peak Hour) (100% City of Jurupa Valley)

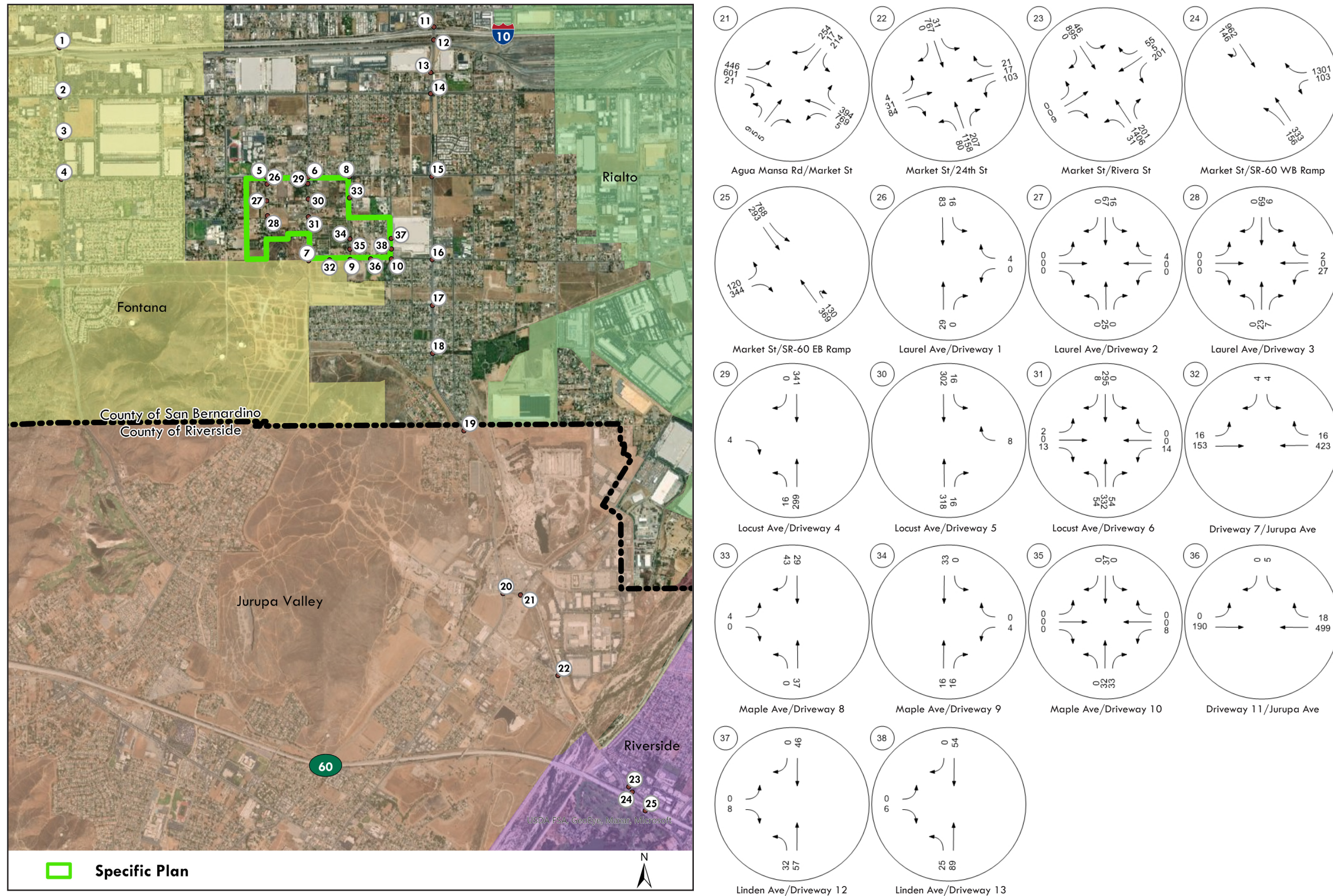
While intersection #19 Cedar Ave/El Rivino operates at unacceptable LOS F in the baseline and plus project conditions, the increase in delay is less than 3 seconds and is within the Jurisdiction of Jurupa Valley, so the impact is less than significant. Mitigation for the impacted intersections is discussed in Section 6 Project Mitigation and Fair Share.

Figure 21a: Opening Year plus Specific Plan AM Peak Hour Volumes



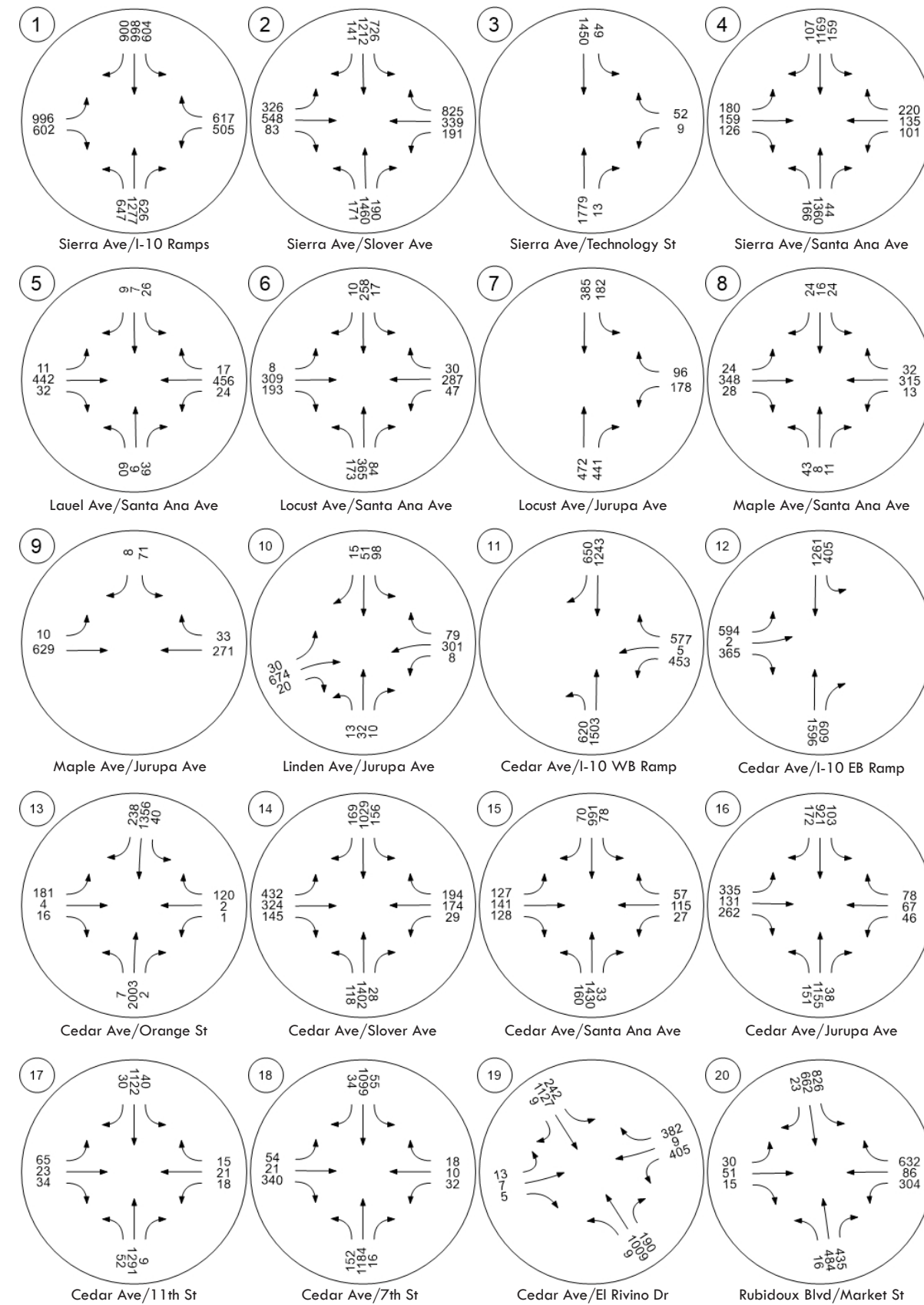
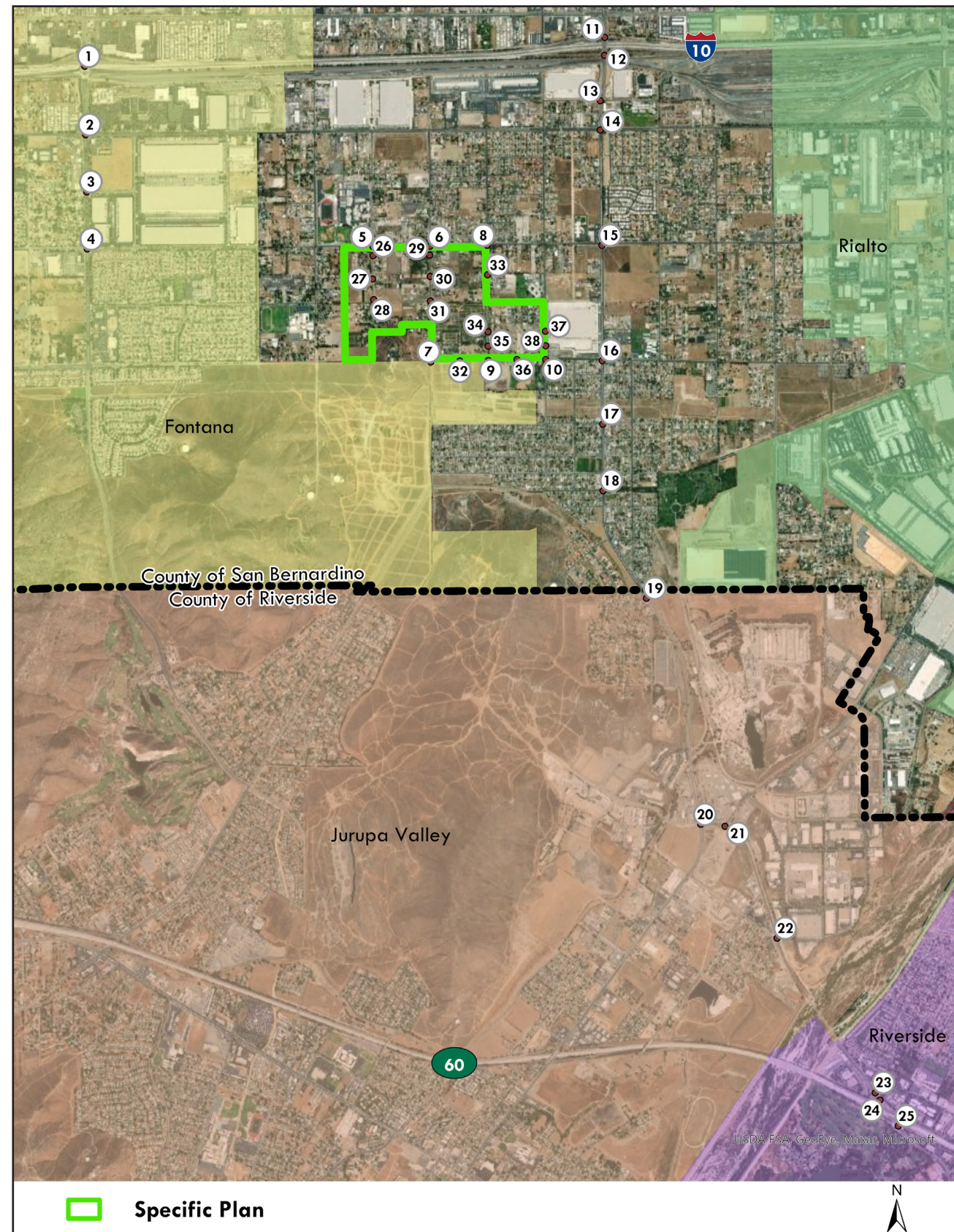
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Figure 21b: Opening Year plus Specific Plan AM Peak Hour Volume



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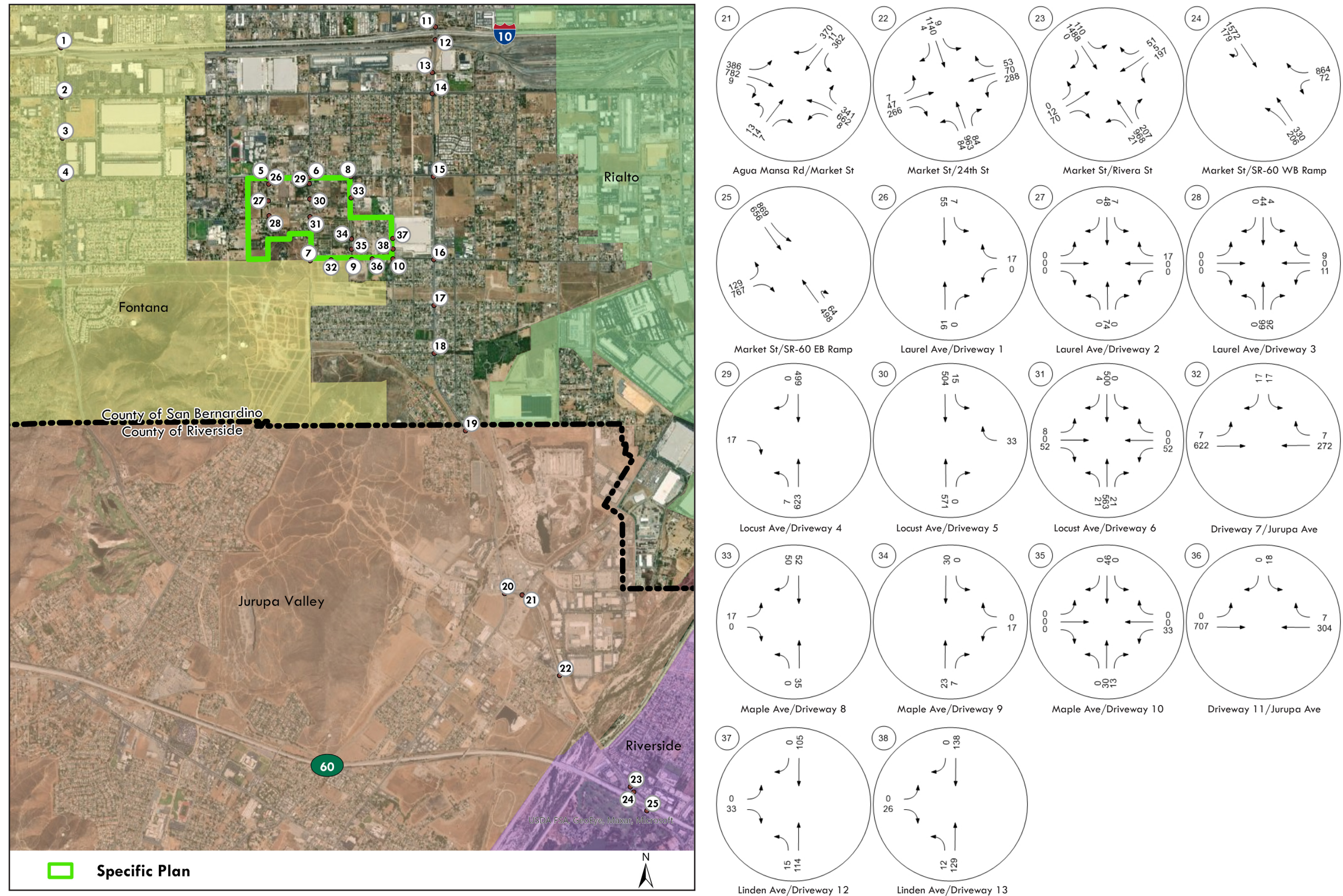
Figure 22a: Opening Year plus Specific Plan PM Peak Hour Volume



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Figure 22b: Opening Year plus Specific Plan PM Peak Hour Volume



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**Table 14. Opening Year Plus Specific Plan AM and PM Peak Hour Levels of Service**

Intersection	Location %	Signal Control	Opening Year				Opening Year plus Project				Difference		Impact?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>				
1. Sierra Ave/I-10 Ramps	50F/50C	Signal	36.3	D	35.1	D	36.4	D	35.7	D	0.1	0.6	No	No
2. Sierra Ave/Slover Ave	100 F	Signal	33.1	C	40.0	D	32.7	C	39.9	D	-0.4	-0.1	No	No
3. Sierra Ave/Technology St	100 F	Signal	4.5	A	3.8	A	4.4	A	3.8	A	-0.1	0.0	No	No
4. Sierra Ave/Santa Ana Ave	100 F	Signal	17.0	B	21.7	C	19.7	B	24.6	C	2.7	2.9	No	No
5. Laurel Ave/Santa Ana Ave	100 SB	AWSC	9.6	A	12.7	B	11.7	B	19.0	C	2.1	6.3	No	No
6. Locust Ave/Santa Ana Ave	100 SB	AWSC	12.7	B	>50	F	16.3	C	>50	F	3.6	68.0	No	Yes
7. Locust Ave/Jurupa Ave	50SB/50F	TWSC	27.4	D	>50	F	>50	F	>50	F	49.3	672.2	Yes	Yes
8. Maple Ave/Santa Ana Ave	100 SB	TWSC	12.3	B	18.2	C	13.3	B	22.4	C	1.0	4.2	No	No
9. Maple Ave/Jurupa Ave	100 SB	TWSC	13.3	B	15.8	C	19.8	C	25.5	D	6.5	9.7	No	No
10. Linden Ave/Jurupa Ave	100 SB	AWSC	10.6	B	17.4	C	28.5	D	>50	F	17.9	57.6	No	Yes
11. Cedar Ave/I-10 WB Ramps	50SB/50C	Signal	78.2	E	60.2	E	>80	F	75.9	E	11.2	15.7	Yes	No
12. Cedar Ave/I-10 EB Ramps	50SB/50C	Signal	53.5	D	42.5	D	60.9	E	57.6	E	7.4	15.1	No	No
13. Cedar Ave/Orange Street	100 SB	Signal	9.4	A	18.1	B	10.2	A	23.7	C	0.8	5.6	No	No
14. Cedar Ave/Slover Ave	100 SB	Signal	56.0	E	70.5	E	75.0	E	>80	F	19.0	20.8	No	Yes
15. Cedar Ave/Santa Ana Ave	100 SB	Signal	14.0	B	27.6	C	15.9	B	52.2	C	1.9	24.6	No	No
16. Cedar Ave/Jurupa Ave	100 SB	Signal	>80	F	>80	F	>80	F	>80	F	82.9	173.7	Yes	Yes
17. Cedar Ave/11th St	100 SB	Signal	8.8	A	9.5	A	8.9	A	9.7	A	0.1	0.2	No	No
18. Cedar Ave/7th St	100 SB	Signal	11.0	B	26.1	C	11.5	B	29.8	C	0.5	3.7	No	No
19. Cedar Ave/El Rivino Dr	100 JV	Signal	33.9	C	56.7	E	38.8	B	55.8	E	4.9	-0.9	No	No
20. Rubidoux Blvd/Market St	100 JV	Signal	72.9	E	>80	F	75.0	E	>80	F	2.1	13.7	Yes	Yes
21. Agua Mansa Rd/Market St	100 JV	Signal	34.3	C	37.5	D	34.5	C	37.1	D	0.2	-0.4	No	No
22. Market St/24th St	100 JV	Signal	25.7	C	72.2	E	29.3	C	>80	F	3.6	13.0	No	Yes
23. Market St/Rivera St	100 R	Signal	12.3	B	15.0	B	12.5	B	14.6	B	0.2	-0.4	No	No
24. Market St/SR-60 WB Ramp	50R/50C	Signal	10.7	B	12.1	B	10.7	B	11.5	B	0.0	-0.6	No	No
25. Market St/SR-60 EB Ramp	50R/50C	Signal	23.6	C	43.7	D	24.1	C	31.8	C	0.5	-11.9	No	No
26. Laurel Ave/Driveway 1	100 SB	TWSC	-	-	-	-	8.5	A	8.8	A	N/A	N/A	No	No
27. Laurel Ave/Driveway 2	100 SB	TWSC	-	-	-	-	9.4	A	9.5	A	N/A	N/A	No	No
28. Laurel Ave/Driveway 3	100 SB	TWSC	-	-	-	-	9.3	A	9.4	A	N/A	N/A	No	No
29. Locust Ave/Driveway 4	100 SB	TWSC	-	-	-	-	10.2	B	11.7	B	N/A	N/A	No	No
30. Locust Ave/Driveway 5	100 SB	TWSC	-	-	-	-	10.2	B	12.6	B	N/A	N/A	No	No
31. Locust Ave/Driveway 6	100 SB	Signal	-	-	-	-	6.0	A	6.7	A	N/A	N/A	No	No
32. Driveway 7/Jurupa Ave	50SB/50F	TWSC	-	-	-	-	13.5	B	18.4	C	N/A	N/A	No	No
33. Maple Ave/Driveway 8	100 SB	TWSC	-	-	-	-	9.0	A	9.2	A	N/A	N/A	No	No
34. Maple Ave/Driveway 9	100 SB	TWSC	-	-	-	-	8.8	A	8.9	A	N/A	N/A	No	No
35. Maple Ave/Driveway 10	100 SB	TWSC	-	-	-	-	9.0	A	9.1	A	N/A	N/A	No	No
36. Driveway 11/Jurupa Ave	100 SB	TWSC	-	-	-	-	13.8	B	15.0	B	N/A	N/A	No	No
37. Linden Ave/Driveway 12	100 SB	TWSC	-	-	-	-	8.5	A	8.9	A	N/A	N/A	No	No
38. Linden Ave/Driveway 13	100 SB	TWSC	-	-	-	-	8.6	A	9.1	A	N/A	N/A	No	No

☐ = Unsatisfactory Level of Service TWSC = Two-Way Stop Controlled AWSC = Two-Way Stop Controlled

- F Fontana
- C Caltrans
- SB San Bernardino
- JV Jurupa Valley
- R Riverside

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

### 5.3 General Plan Buildout Plus Specific Plan Traffic Volumes and Intersection Operations

General Plan Buildout (Year 2040) plus Specific Plan traffic volumes were determined by adding the Specific Plan trips to Year 2040 traffic volumes. The General Plan Buildout plus Specific Plan traffic volumes are shown in Figures 23 and 24. Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Table 15 shows the General Plan Buildout plus Specific Plan AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in Appendix D. As shown in Table 15, the following 20 intersections would have a significant impact with addition of the project:

- #1 – Sierra Ave/I-10 WB Ramps (PM Peak Hour) (50% City of Fontana, 50% Caltrans)
- #2 – Sierra Ave/Slover Ave (PM Peak Hour) (100% City of Fontana)
- #4 – Sierra Ave/Santa Ana Ave (PM Peak Hour) (100% City of Fontana)
- #5 – Laurel Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)
- #6 – Locust Ave/Santa Ana Ave (AM and PM Peak Hour) (100% County of San Bernardino)
- #7 - Locust Ave/Jurupa Ave (PM Peak Hour) (50% County of San Bernardino, 50% City of Fontana)
- #8 – Maple Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)
- #9 – Maple Ave/Jurupa Ave (PM Peak Hour) (100% County of San Bernardino)
- #10 – Linden Ave/Jurupa Ave (PM Peak Hour) (100% County of San Bernardino)
- #11 – Cedar Ave/I-10 WB Ramps (PM Peak Hour) (50% County of San Bernardino, 50% Caltrans)
- #12 – Cedar Ave/I-10 EB Ramps (PM Peak Hour) (50% County of San Bernardino, 50% Caltrans)
- #13 – Cedar Ave/Orange St (PM Peak Hour) (100% County of San Bernardino)
- #14 – Cedar Ave/Slover Ave (PM Peak Hour) (100% County of San Bernardino)
- #15 – Cedar Ave/Santa Ana Ave (PM Peak Hour) (100% County of San Bernardino)
- #16 – Cedar Ave/Jurupa Ave (AM and PM Peak Hour) (100% County of San Bernardino)
- #17 – Cedar Ave/11<sup>th</sup> St (PM Peak Hour) (100% County of San Bernardino)
- #18 – Cedar Ave/7<sup>th</sup> St (PM Peak Hour) (100% County of San Bernardino)
- #20 – Rubidoux Blvd/Market St (PM Peak Hour) (100% City of Jurupa Valley)
- #22 – Market St/24<sup>th</sup> St (PM Peak Hour) (100% City of Jurupa Valley)
- #25 – Market St/SR-60 EB Ramp (PM Peak Hour) (50% City of Riverside, 50% Caltrans)

In addition, Table 15 shows the following driveways operate at LOS F in the 2040 plus Project Scenario:

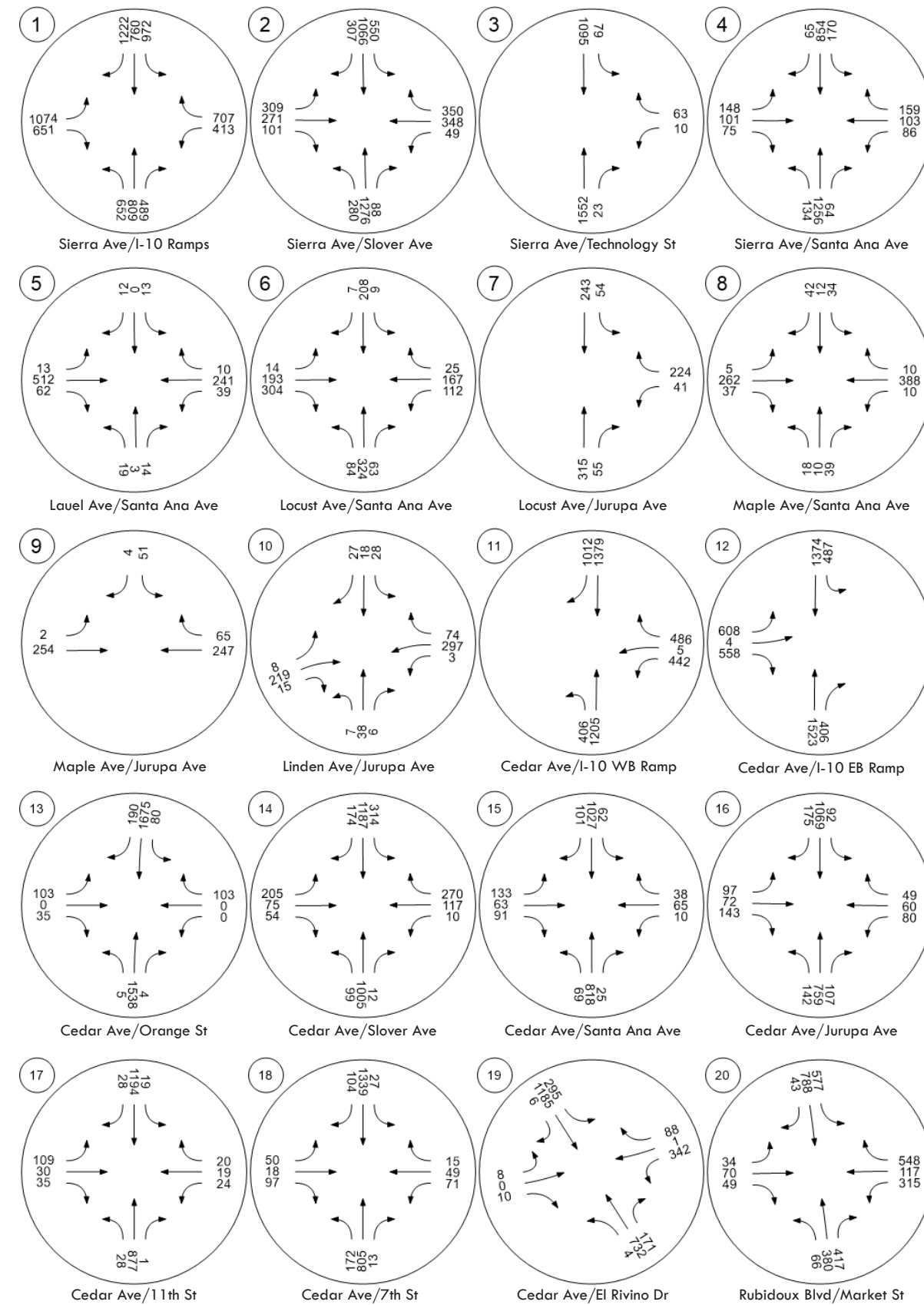
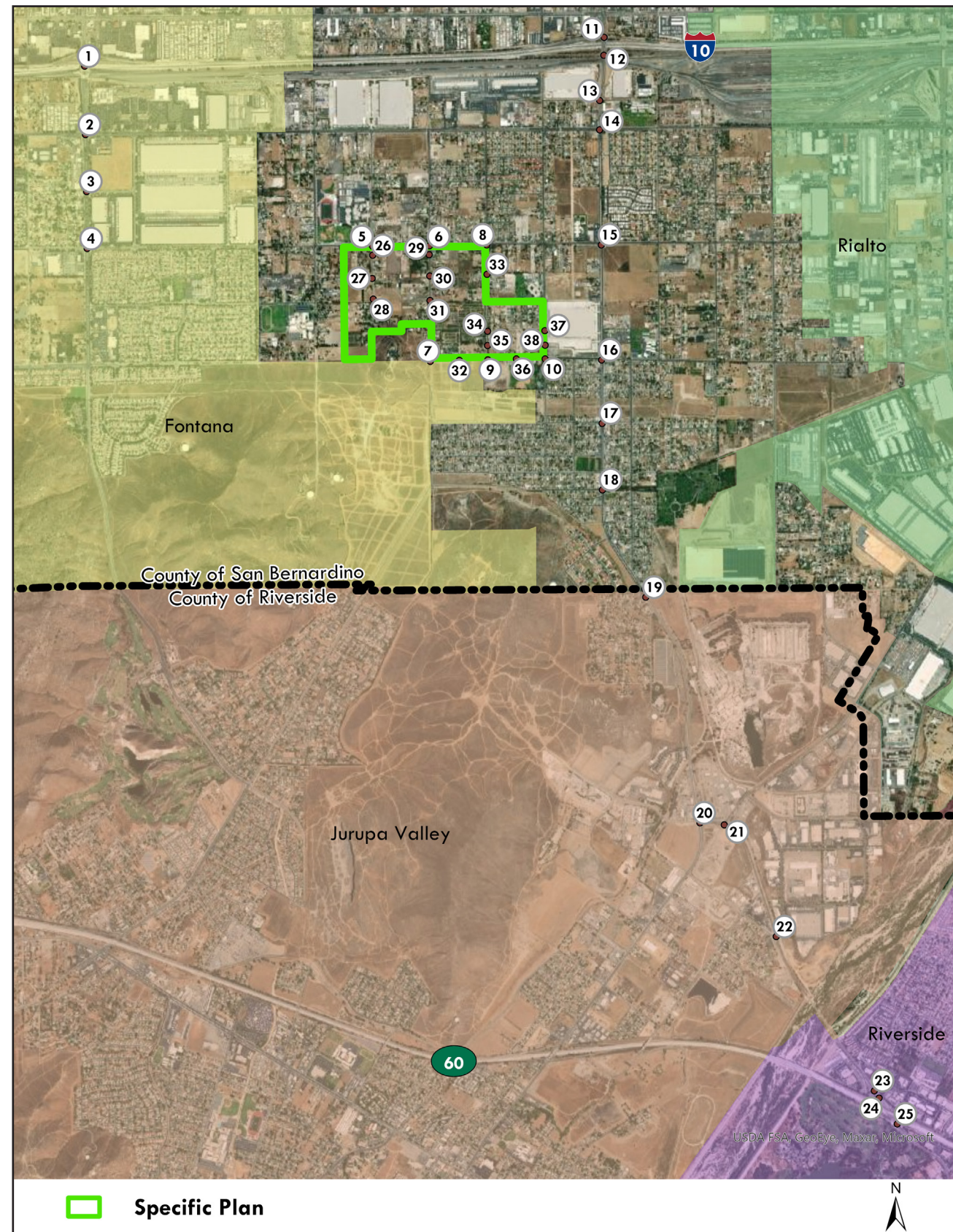
- #29 – Locust Ave/Driveway 4 (PM Peak Hour) (100% County of San Bernardino)
- #31 – Locust Ave/Driveway 6 (PM Peak Hour) (100% County of San Bernardino)
- #32 – Driveway 7/Jurupa Ave (PM Peak Hour) (50% County of San Bernardino, 50% City of Fontana)

While intersection #19 Cedar Ave/El Rivino and #21 Agua Mansa Road/Market Street operate at unacceptable LOS F in the baseline and plus project conditions, the increase in delay is less than

3 seconds and they are within the Jurisdiction of Jurupa Valley, so the impact is less than significant. Mitigation for the impacted intersections is discussed in Section 6 Project Mitigation and Fair Share.

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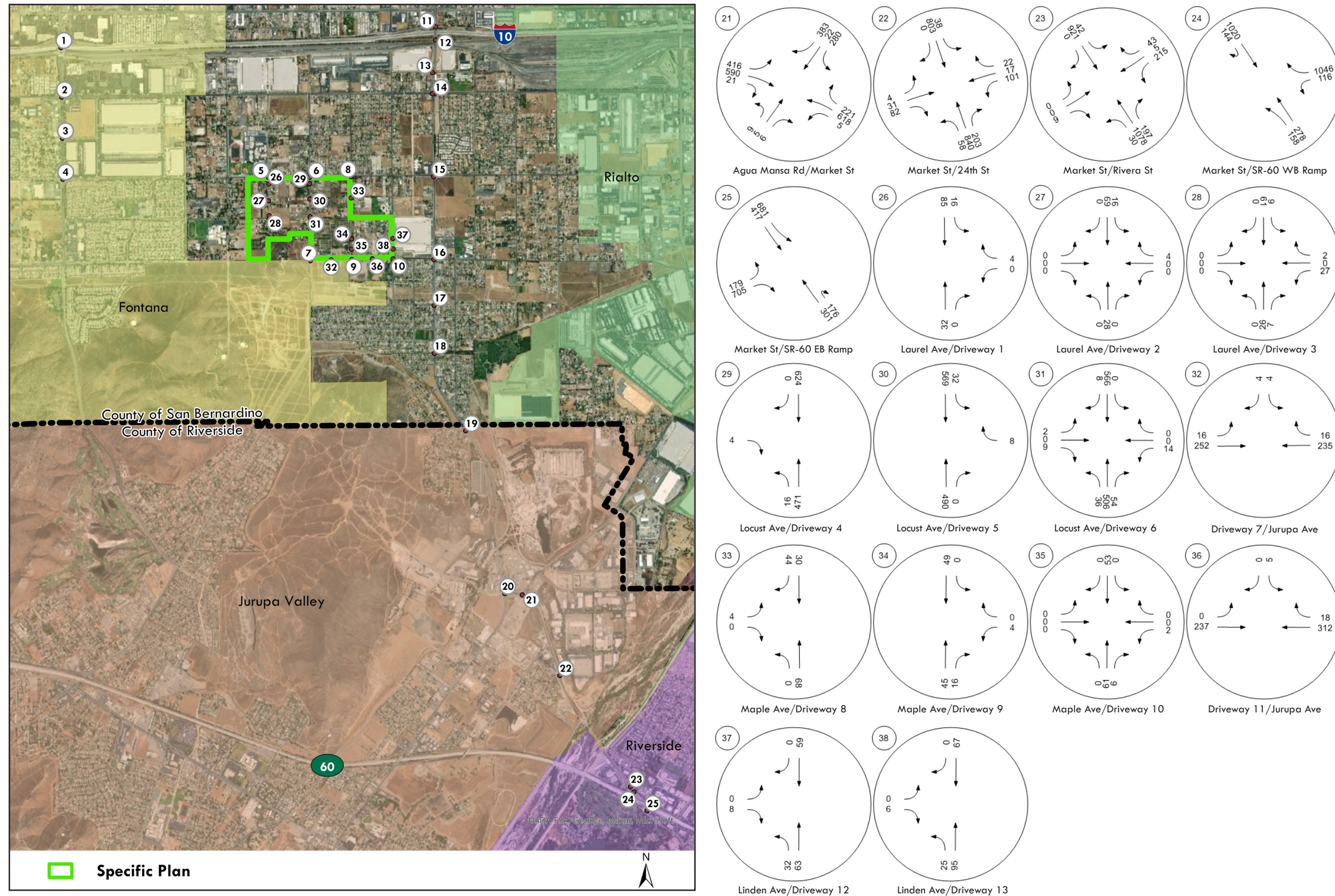
Figure 23a: General Plan Buildout plus Specific Plan AM Peak Hour Volumes



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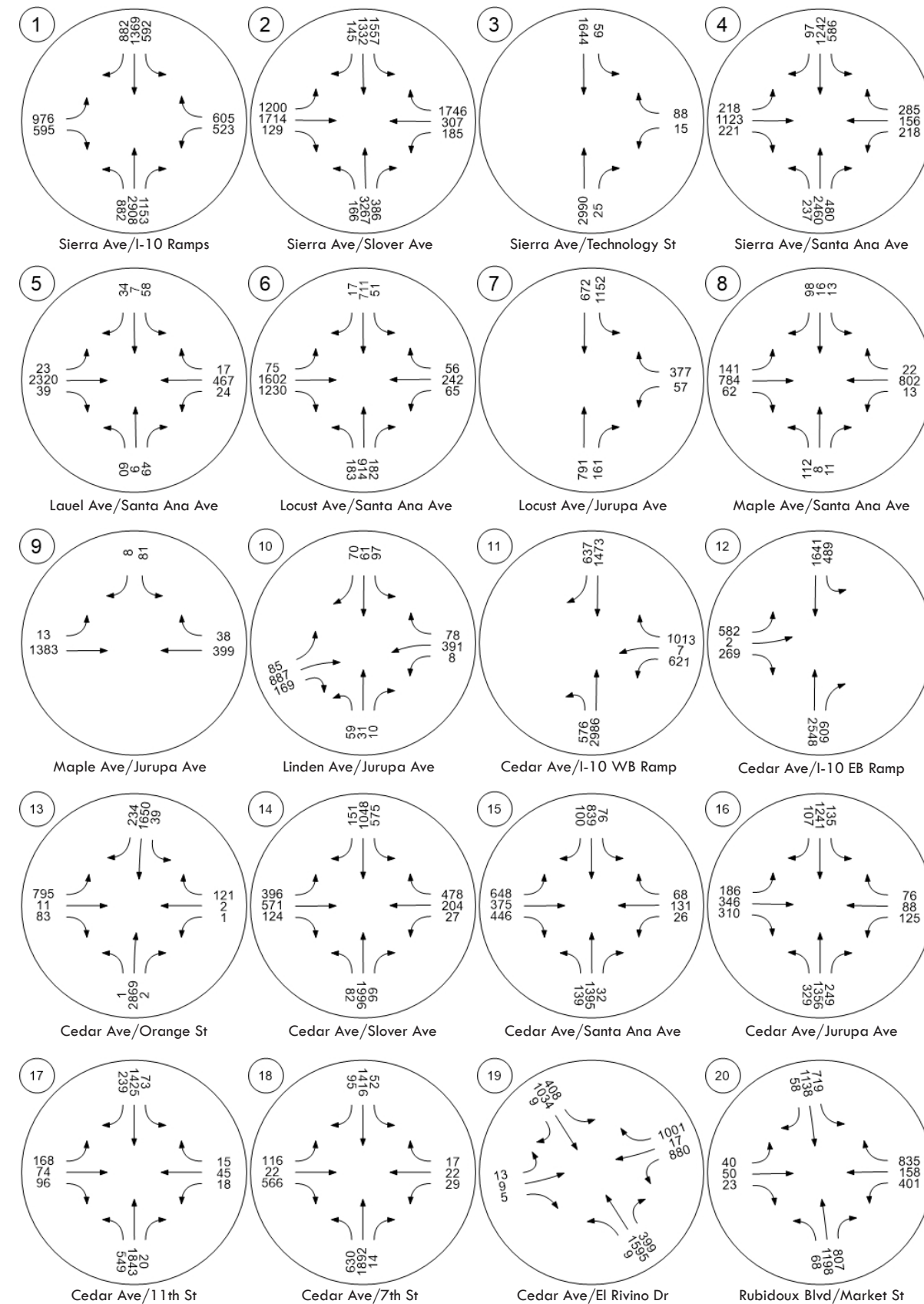
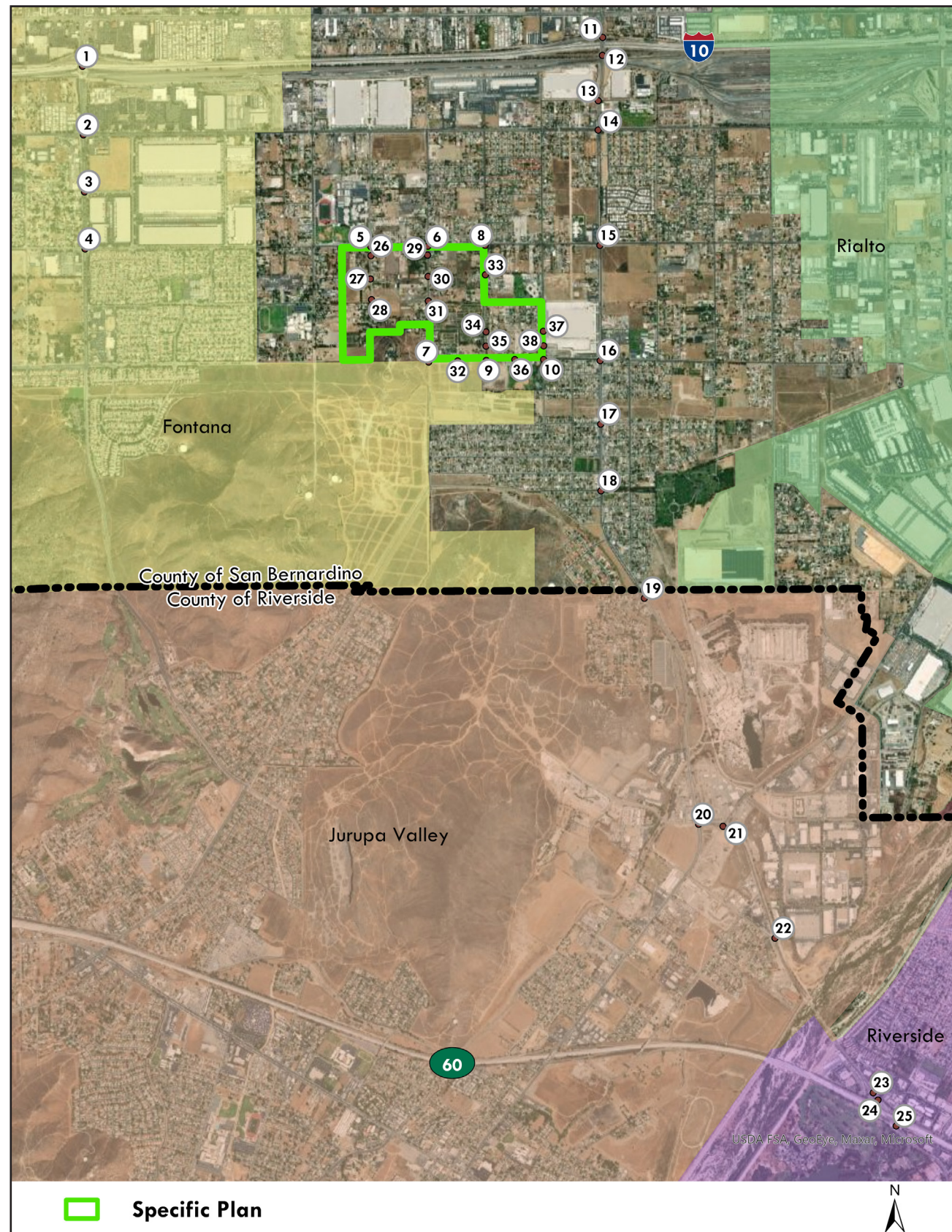


Figure 23b: General Plan Buildout plus Specific Plan AM Peak Hour Volumes



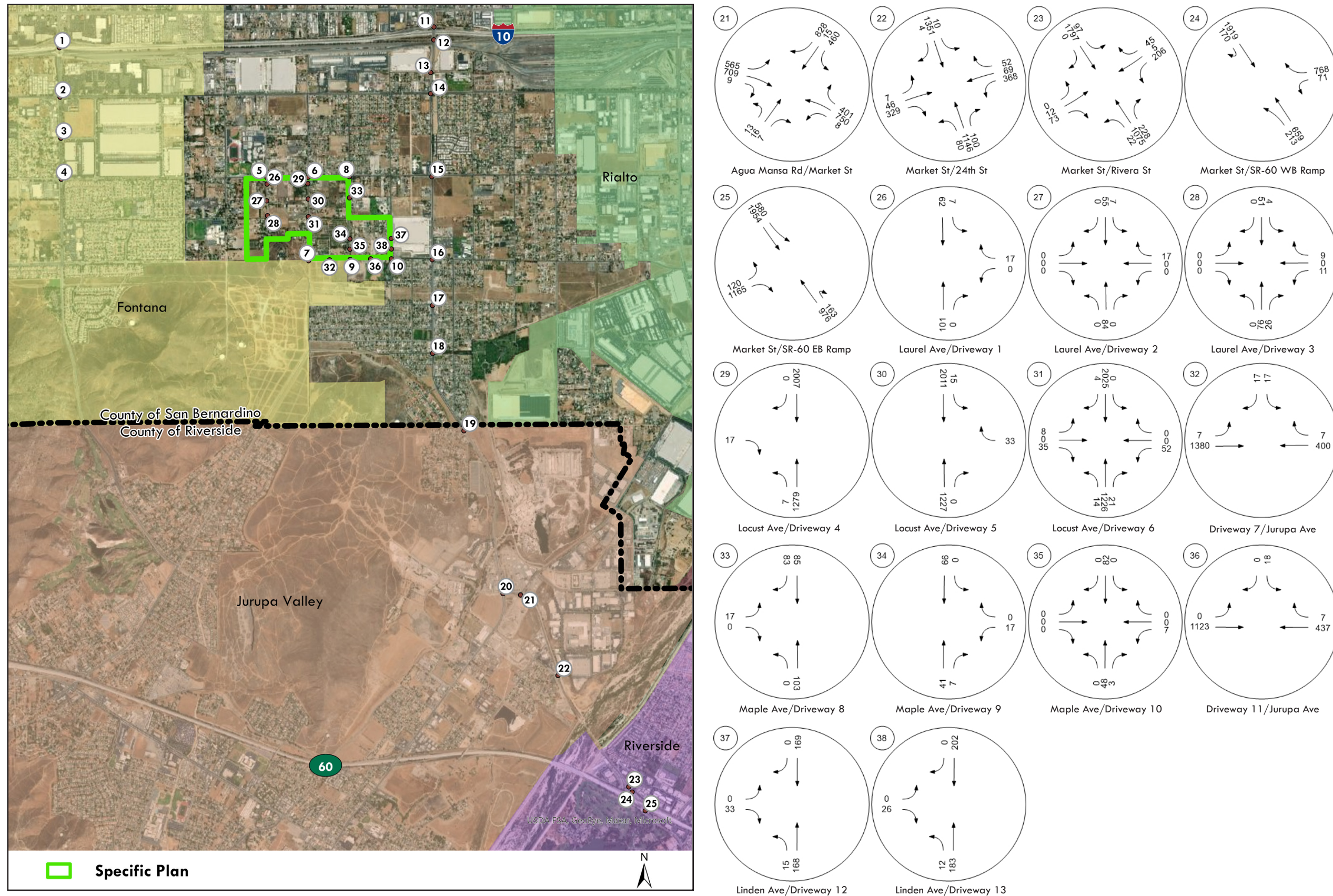
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Figure 24a: General Plan Buildout plus Specific Plan PM Peak Hour Volumes



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Figure 24b: General Plan Buildout plus Specific Plan PM Peak Hour Volumes



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**Table 15. General Plan Buildout Plus Specific Plan AM and PM Peak Hour Levels of Service**

	Intersection	Location %	Signal Control	2040				2040 plus Project				Difference		Impact?	
				AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
				Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>				
1.	Sierra Ave/I-10 Ramps	50F/50C	Signal	41.8	D	>80	F	41.9	D	>80	F	0.1	3.3	No	Yes
2.	Sierra Ave/Slover Ave	100 F	Signal	35.5	D	>80	F	35.2	D	>80	F	-0.3	8.0	No	Yes
3.	Sierra Ave/Technology St	100 F	Signal	4.8	A	6.5	A	4.7	A	6.8	A	-0.1	0.3	No	No
4.	Sierra Ave/Santa Ana Ave	100 F	Signal	19.5	B	>80	F	21.8	C	>80	F	2.3	4.3	No	Yes
5.	Laurel Ave/Santa Ana Ave	100 SB	AWSC	11.6	B	>50	F	16.2	C	>50	F	4.6	157.1	No	Yes
6.	Locust Ave/Santa Ana Ave	100 SB	AWSC	45.4	E	>50	F	>50	F	>50	F	33.3	142.2	Yes	Yes
7.	Locust Ave/Jurupa Ave	50SB/50F	TWSC	15.0	C	>50	F	19.7	C	>50	F	4.7	0.0	No	Yes
8.	Maple Ave/Santa Ana Ave	100 SB	TWSC	17.9	C	>50	F	20.0	C	>50	F	2.1	2301.6	No	Yes
9.	Maple Ave/Jurupa Ave	100 SB	TWSC	10.9	B	>50	F	13.3	B	>50	F	2.4	229.6	No	Yes
10.	Linden Ave/Jurupa Ave	100 SB	AWSC	8.5	A	>50	F	10.5	B	>50	F	2.0	129.2	No	Yes
11.	Cedar Ave/I-10 WB Ramps	50SB/50C	Signal	47.4	D	>80	F	58.7	E	>80	F	11.3	13.0	No	Yes
12.	Cedar Ave/I-10 EB Ramps	50SB/50C	Signal	55.4	E	>80	F	62.7	E	>80	F	7.3	12.4	No	Yes
13.	Cedar Ave/Orange Street	100 SB	Signal	8.9	A	>80	F	9.4	A	>80	F	0.5	28.4	No	Yes
14.	Cedar Ave/Slover Ave	100 SB	Signal	38.1	D	>80	F	39.7	D	>80	F	1.6	27.2	No	Yes
15.	Cedar Ave/Santa Ana Ave	100 SB	Signal	13.3	B	>80	F	14.0	B	>80	F	0.7	41.5	No	Yes
16.	Cedar Ave/Jurupa Ave	100 SB	Signal	52.0	D	>80	F	>80	F	>80	F	66.9	149.3	Yes	Yes
17.	Cedar Ave/11th St	100 SB	Signal	9.3	A	60.7	E	9.3	A	71.7	E	0.0	11.0	No	Yes
18.	Cedar Ave/7th St	100 SB	Signal	13.9	B	>80	F	14.0	B	>80	F	0.1	15.1	No	Yes
19.	Cedar Ave/El Rivino Dr	100 JV	Signal	24.5	C	>80	F	25.9	C	>80	F	1.4	2.6	No	No
20.	Rubidoux Blvd/Market St	100 JV	Signal	52.8	D	>80	F	55.0	D	>80	F	2.2	11.1	No	Yes
21.	Agua Mansa Rd/Market St	100 JV	Signal	25.8	C	>80	F	26.1	C	>80	F	0.3	0.4	No	No
22.	Market St/24th St	100 JV	Signal	18.1	B	>80	F	18.9	B	>80	F	0.8	15.1	No	Yes
23.	Market St/Rivera St	100 R	Signal	11.4	B	16.8	B	11.5	B	17.3	B	0.1	0.5	No	No
24.	Market St/SR-60 WB Ramp	50R/50C	Signal	11.1	B	14.0	B	11.1	B	14.8	B	0.0	0.8	No	No
25.	Market St/SR-60 EB Ramp	50R/50C	Signal	22.9	C	48.3	D	23.3	C	55.4	E	0.4	7.1	No	Yes
26.	Laurel Ave/Driveway 1	100 SB	TWSC	-	-	-	-	8.5	A	8.9	A	N/A	N/A	No	No
27.	Laurel Ave/Driveway 2	100 SB	TWSC	-	-	-	-	9.5	A	9.6	A	N/A	N/A	No	No
28.	Laurel Ave/Driveway 3	100 SB	TWSC	-	-	-	-	9.3	A	9.5	A	N/A	N/A	No	No
29.	Locust Ave/Driveway 4	100 SB	TWSC	-	-	-	-	12.8	B	>50	F	N/A	N/A	No	No
30.	Locust Ave/Driveway 5	100 SB	TWSC	-	-	-	-	11.5	B	26.6	D	N/A	N/A	No	No
31.	Locust Ave/Driveway 6	100 SB	Signal	-	-	-	-	5.1	A	>50	F	N/A	N/A	No	No
32.	Driveway 7/Jurupa Ave	50SB/50F	TWSC	-	-	-	-	12.4	B	>50	F	N/A	N/A	No	No
33.	Maple Ave/Driveway 8	100 SB	TWSC	-	-	-	-	9.1	A	9.9	A	N/A	N/A	No	No
34.	Maple Ave/Driveway 9	100 SB	TWSC	-	-	-	-	9.0	A	9.1	A	N/A	N/A	No	No
35.	Maple Ave/Driveway 10	100 SB	TWSC	-	-	-	-	9.2	A	9.3	A	N/A	N/A	No	No
36.	Driveway 11/Jurupa Ave	100 SB	TWSC	-	-	-	-	11.8	B	22.5	C	N/A	N/A	No	No
37.	Linden Ave/Driveway 12	100 SB	TWSC	-	-	-	-	8.6	A	9.3	A	N/A	N/A	No	No
38.	Linden Ave/Driveway 13	100 SB	TWSC	-	-	-	-	8.6	A	9.5	A	N/A	N/A	No	No

F = Unsatisfactory Level of Service TWSC = Two-Way Stop Controlled AWSC = Two-Way Stop Controlled

0.0 = 0.0 change in delay is due to 10,000 seconds being the maximum output in Vistro, and since the baseline delay is 10,000 seconds the change in delay is unknown but expected to be significant

F Fontana

C Caltrans

SB San Bernardino

JV Jurupa Valley

R Riverside

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

## 6 PROJECT MITIGATION AND FAIR SHARE

### 6.1 Specific Plan Mitigation

#### Existing Plus Specific Plan

As stated in section 5.1, development of the Specific Plan would result in significant impacts at three intersections. Table 16 below shows the following improvements at the impacted intersections:

**Table 16. Existing Plus Specific Plan Mitigation Summary**

Intersection		Location %	Proposed Improvemnts
6.	Locust Ave/Santa Ana Ave	100SB	Add a NB left-turn and an EB thru lane.
7.	Locust Ave/Jurupa Ave	50SB/50F	Add a Traffic Signal.
16.	Cedar Ave/Jurupa Ave	100SB	Add an EB left-turn lane

SB: County of San Bernardino

F: City of Fontana

Table 19 shows the LOS at each affected intersection with implementation of the proposed improvements. As seen in Table 19, all impacted intersections are mitigated to a less than significant impact.

#### Opening Year Plus Specific Plan

Development of the Specific Plan would result in significant impacts at 6 intersections in the Opening Year plus Project condition. Table 17 below shows the following improvements at the impacted intersections:

**Table 17. Opening Year Plus Specific Plan Mitigation Summary**

Intersection		Location %	Proposed Improvemnts
6.	Locust Ave/Santa Ana Ave	100 SB	Add a NB left-turn and an EB thru lane
7.	Locust Ave/Jurupa Ave	50 SB/50 F	Add a Traffic Signal
10.	Linden Ave/Jurupa Ave	100 SB	Convert the EB right-turn lane to a shared EB thru-right lane
11.	Cedar Ave/ I-10 WB Ramps	50 SB/50 C	Convert the 3rd SB thru lante to a SB thru-right lane
14.	Cedar Ave/Slover Ave	100 SB	Add a 2nd EB left-turn lane
16.	Cedar Ave/Jurupa Ave	100 SB	Add an EB left-turn lane
20.	Rubidoux Blvd/Market St	100 JV	Add a 2nd SB left-turn lane
22.	Market St/24 <sup>th</sup> St	100 JV	Add a 2nd WB left-turn lane

SB: County of San Bernardino

F: City of Fontana

C: Caltrans

JV: City of Jurupa Valley



Table 20 shows the LOS at each affected intersection with implementation of the proposed improvements. As seen in Table 20, all impacted intersections are mitigated to a less than significant impact.

### 2040 Plus Project

Development of the Specific Plan would result in significant impacts at 20 intersections in the 2040 plus Project condition. Table 18 below shows the following improvements at the impacted intersections:

**Table 18. 2040 Plus Specific Plan Mitigation Summary**

Intersection		Location %	Proposed Improvements
1.	Sierra Ave/I-10 Ramps	50 F/50 C	Add a 3rd EB left-turn lane
2.	Sierra Ave/Slover Ave	100 F	Convert the EB right-turn lane to a shared EB thru-right lane
4.	Sierra Ave/Santa Ana Ave	100 F	Convert the NB right-turn to a shared NB thru-right lane
5.	Laurel Ave/Santa Ana Ave	100 SB	Add a 2nd EB thru lane
6.	Locust Ave/Santa Ana Ave	100 SB	Add a NB left-turn and a EB thru lane
7.	Locust Ave/Jurupa Ave	50 SB/50 F	Add a Traffic Signal and add SB and WB left-turn lanes
8.	Maple Ave/Santa Ana Ave	100 SB	Add a 2nd EB thru lane
9.	Maple Ave/Jurupa Ave	100 SB	Add a WB thru lane and two-stage gap acceptance
10.	Linden Ave/Jurupa Ave	100 SB	Convert the EB right-turn lane to a shared EB thru-right lane
11.	Cedar Ave/ I-10 WB Ramps	50 SB/50 C	Convert the 3rd SB thru lane to a SB thru-right lane and add a NB thru lane
12.	Cedar Ave/ I-10 EB Ramps	50 SB/50 C	Add an EB right turn lane

13.	Cedar Ave/Orange Street	100 SB	Change the EB/WB phasing to split phasing
14.	Cedar Ave/Slover Ave	100 SB	Add a 2nd EB left turn lane
15.	Cedar Ave/Santa Ana Ave	100 SB	Add an EB and a WB left-turn lane
16.	Cedar Ave/Jurupa Ave	100 SB	Add an EB left-turn lane
17.	Cedar Ave/11th St	100 SB	Add an EB left-turn lane
18.	Cedar Ave/7th St	100 SB	Add an EB left-turn lane
20.	Rubidoux Blvd/Market St	100 JV	Add a 2nd SB left-turn lane
22.	Market St/24th Street	100 JB	Add a 2nd WB left-turn lane
25.	Market St/SR-60 EB Ramp	50 R/50 C	Add a SB left-turn lane

SB: County of San Bernardino

F: City of Fontana

C: Caltrans

JV: City of Jurupa Valley

R: City of Riverside

Table 21 shows the LOS at each affected intersection with implementation of the proposed improvements and Table 22 shows the project driveways after the widening Locust Avenue to its ultimate width (4-lanes). As seen in Table 21, all impacted intersections are mitigated to a less than significant impact and in Table 22, the project driveways operate at an acceptable LOS.

**Table 19. Existing Plus Project Mitigation LOS Table**

	Intersection	Location %	Proposed Improvement	Existing				Existing plus Project				Existing plus Project MIT				Impact?	
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM
				Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>		
6.	Locust Ave/Santa Ana Ave	100 SB	Add NB left and EB thru	10.7	B	36.9	E	12.7	B	>50	F	12.7	B	31.3	D	No	No
7.	Locust Ave/Jurupa Ave	50SB/50F	Signal	12.6	B	21.2	C	15.7	C	45.3	E	10.0	A	8.2	A	No	No
16.	Cedar Ave/Jurupa Ave	100 SB	Add EB left-turn	16.1	B	24.3	C	32.7	C	>80	F	15.5	B	19.8	B	No	No

Unsatisfactory Level of Service

SB San Bernardino

F Fontana

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

**Table 20. Opening Year Plus Project Mitigation LOS Table**

	Intersection	Location %	Proposed Improvement	Opening Year				Opening Year plus Project				Opening Year plus Project MIT				Impact?	
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM
				Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>		
6.	Locust Ave/Santa Ana Ave	100 SB	Add NB left and EB thru	12.7	B	>50	F	16.3	C	>50	F	14.9	B	62.0	F	No	No
7.	Locust Ave/Jurupa Ave	50SB/50F	Signal	27.4	D	>50	F	>50	F	>50	F	14.1	B	53.8	D	No	No
10.	Linden Ave/Jurupa Ave	100 SB	EB right to EB thru-right	10.6	B	17.4	C	28.5	D	>50	F	28.1	D	16.0	C	No	No
11.	Cedar Ave/ I-10 WB Ramps	50SB/50C	3rd SB thru to SB thru-right	78.2	E	60.2	E	>80	F	75.9	E	73.9	E	76.4	E	No	No
14.	Cedar Ave/Slover Ave	100 SB	Add 2nd EB left-turn	56	E	70.5	E	75	E	>80	F	47.2	D	47.2	D	No	No
16.	Cedar Ave/Jurupa Ave	100 SB	Add EB left-turn	>80	F	>80	F	>80	F	>80	F	25.7	C	34.6	C	No	No
20.	Rubidoux Blvd/Market St	100 JV	Add 2nd SB left-turn	72.9	E	>80	F	75	E	>80	F	38.0	D	47.7	D	No	No
22.	Market St/24th St	100 JV	Add 2nd WB left-turn	25.7	C	72.2	E	29.3	C	>80	F	24.6	C	53.2	D	No	No

Unsatisfactory Level of Service

SB San Bernardino

F Fontana

C Caltrans

JV Jurupa Valley

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

**Table 21. 2040 Plus Project Mitigation LOS Table**

	Intersection	Location %	Proposed Improvement	2040				2040 plus Project				2040 plus Project MIT				Baseline - MIT		Impact?	
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
				Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>				
1.	Sierra Ave/I-10 Ramps	50F/50C	Add 3rd EB left-turn	41.8	D	106.8	F	41.9	D	110.1	F	40.0	D	68.4	E	-1.8	-38.4	No	No
2.	Sierra Ave/Slover Ave	100 F	Convert EBR to shared EB thru-right	35.5	D	363.0	F	35.2	D	371.0	F	35.2	D	345.5	F	-0.3	-17.5	No	No
4.	Sierra Ave/Santa Ana Ave	100 F	Convert NBR to shared NB thru-right	19.5	B	125.5	F	21.8	C	129.8	F	21.5	C	114.8	F	2.0	-10.7	No	No
5.	Laurel Ave/Santa Ana Ave	100 SB	Add 2nd EB thru	11.6	B	876.2	F	16.2	C	1033.3	F	10.9	B	411.5	F	-0.7	-464.7	No	No
6.	Locust Ave/Santa Ana Ave	100 SB	Add NB left and EB thru	45.4	E	1938.8	F	78.7	F	2081.0	F	35.4	D	1037.2	F	-10.0	-901.6	No	No
7.	Locust Ave/Jurupa Ave	50SB/50F	Signal and add SB and WB left	15.0	C	10000.0	F	19.7	C	10000.0	F	9.6	A	372.6	F	-5.4	-9627.4	No	No
8.	Maple Ave/Santa Ana Ave	100 SB	Add 2nd EB thru	17.9	C	2519.1	F	20.0	C	4820.7	F	17.6	C	1814.9	F	-0.3	-704.2	No	No
9.	Maple Ave/Jurupa Ave	100 SB	Add WB thru and two-stage gap acceptance	10.9	B	52.1	F	13.3	B	281.7	F	10.3	B	16.4	C	-0.6	-35.7	No	No
10.	Linden Ave/Jurupa Ave	100 SB	Convert EBR to shared EB thru-right lane	8.5	A	102.7	F	10.5	B	231.9	F	10.1	B	72.8	F	1.6	-29.9	No	No
11.	Cedar Ave/ I-10 WB Ramps	50SB/50C	3rd SB thru to SB thru-right and add NB thru	47.4	D	157.0	F	58.7	E	170.0	F	39.7	D	115.8	F	-7.7	-41.2	No	No
12.	Cedar Ave/ I-10 EB Ramps	50SB/50C	Add EB right turn	55.4	E	83.4	F	62.7	E	95.8	F	44.9	D	69.4	E	-10.5	-14.0	No	No
13.	Cedar Ave/Orange Street	100 SB	Change EB/WB phasing to split phasing	8.9	A	209.7	F	9.4	A	238.1	F	14.5	B	208.8	F	5.6	-0.9	No	No
14.	Cedar Ave/Slover Ave	100 SB	2nd EB left turn	38.1	D	195.9	F	39.7	D	223.1	F	32.1	C	176.0	F	-6.0	-19.9	No	No
15.	Cedar Ave/Santa Ana Ave	100 SB	Add EB and WB left-turn	13.3	B	204.2	F	14.0	B	245.7	F	14.6	B	86.6	F	1.3	-117.6	No	No
16.	Cedar Ave/Jurupa Ave	100 SB	Add EB left-turn	52.0	D	213.6	F	118.9	F	362.9	F	20.5	C	97.1	F	-31.5	-116.5	No	No
17.	Cedar Ave/11th St	100 SB	Add EB left-turn	9.3	A	60.7	E	9.3	A	71.7	E	8.4	A	50.0	D	-0.9	-10.8	No	No
18.	Cedar Ave/7th St	100 SB	Add EB left-turn	13.9	B	104.2	F	14.0	B	119.3	F	13.9	B	89.9	F	0.0	-14.3	No	No
20.	Rubidoux Blvd/Market St	100 JV	Add 2nd SB left-turn	52.8	D	122.7	F	55.0	D	133.8	F	33.7	C	79.6	E	-19.1	-43.1	No	No
22.	Market St/24th St	100 JV	Add WB left-turn	18.1	B	146.5	F	18.9	B	161.6	F	17.1	B	113.7	F	-1.0	-32.8	No	No
25.	Market St/SR-60 EB Ramp	50R/50C	2nd SB left-turn	22.9	C	48.3	D	23.3	C	55.4	E	18.5	B	34.5	C	-4.4	-13.8	No	No

Unsatisfactory Level of Service

- SB San Bernardino
- F Fontana
- C Caltrans
- JV Jurupa Valley
- R Riverside

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

**Table 22. 2040 Plus Project LOS Table for impacted Driveways**

Intersection	Location %	Proposed Improvement	2040 plus Project				2040 plus Project MIT				Difference		Impact?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>				
29. Locust Ave/Driveway 4	100 SB	Add NB and SB thru	12.8	B	80.6	F	10.4	B	22.4	C	-2.4	-58.2	No	No
31. Locust Ave/Driveway 6	50SB/50F	Add NB and SB thru	5.1	A	119.5	F	4.0	A	6.8	A	-1.1	-112.7	No	No
32. Driveway 7/Jurupa Ave	100 SB	Add NB and SB thru	12.4	B	62.2	F	12.4	B	26.2	D	0.0	-36.0	No	No

■ Unsatisfactory Level of Service

SB San Bernardino

F Fontana

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

## 6.2 Project Level Development and Maximum Reasonable Initial Development Difference in Mitigation

Implementation of the Specific Plan in a short-term timeline is not feasible and therefore the impacts shown in the Existing and Opening Year conditions with the Specific Plan would likely not occur. The OY 1 that is currently proposed and the OY 2 would be implemented starting in the existing condition and would be completed in the Opening Year condition. The following analysis identifies the mitigation measures that would be required to mitigate the traffic generated by the OY 1 and OY 2.

### **Existing Plus Project**

As seen in Table 23 only one intersection would be impacted in the Existing plus OY 1 scenario, compared to 3 intersections with the SP. The same improvements identified to mitigate the SP impacts would mitigate the OY 1 impact. Table 24 shows that the OY 2 scenario would also impact only one intersection, and the mitigation measures from the SP impacts would mitigate the OY 2 impact.

### **Opening Year Plus Project**

As seen in Table 25, all of the impacted intersections in the SP plus Project, except for Linden Ave/Jurupa Ave and Cedar Ave/Slover Ave, are impacted in the OY 1 plus Project. Cedar Ave/Jurupa Ave would be a cumulative impact with the OY 1. The same improvements identified to mitigate the SP impacts would mitigate OY 1 impacts. Table 26 shows the OY 2 plus Project scenario has a direct impact to Linden Ave/Jurupa Ave and Cedar Ave/Slover Ave. Cedar Ave/Jurupa Ave is a cumulative impact like it is in the OY 1 plus Project. The SP mitigation mitigates the OY 2 impacts.

### **2040 Plus Project**

As seen in Table 27, the impacted intersections with the OY 1 are the same as the SP plus Project except for intersection 25 Market Street/SR-60 EB Ramps, which operates with an acceptable LOS D in the 2040 Plus Project PM peak hour and would not be impacted by the OY 1. The same improvements identified to mitigate the SP impacts would mitigate impacts of the OY 1. Table 24 shows the same results for the OY 2, with intersection 25 Market Street/SR-60 EB Ramps operating at LOS D in the 2040 Plus Project PM peak hour. The improvements for the SP impacts would also mitigate the impacts for the OY 2.

**Table 23. Opening Year Development of Planning Area A Option 1 Existing Plus Project Levels of Service**

Intersection		Location %	Existing				Existing plus Prject				Existing plus Project MIT				Impact?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>		
6.	Locust Ave/Santa Ana Ave	100 SB	10.7	B	36.9	E	11.4	B	>50	F	11.6	B	24.7	C	No	No
7.	Locust Ave/Jurupa Ave	50SB/50F	12.6	B	21.2	C	13.8	B	28.3	D	8.1	A	6.2	A	No	No
16.	Cedar Ave/Jurupa Ave	100 SB	16.1	B	24.3	C	24.1	C	43.6	D	12.9	B	17.2	B	No	No

Un satisfactory Level of Service

SB San Bernardino

F Fontana

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

**Table 24. Opening Year Development of Planning Area A Option 2 Existing Plus Project Levels of Service**

Intersection		Location %	Existing				Existing plus Prject				Existing plus Project MIT				Impact?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>		
6.	Locust Ave/Santa Ana Ave	100 SB	10.7	B	36.9	E	13.7	B	>50	F	11.9	B	26.8	D	No	No
7.	Locust Ave/Jurupa Ave	50SB/50F	12.6	B	21.2	C	14.2	B	30.9	D	8.6	A	6.6	A	No	No
16.	Cedar Ave/Jurupa Ave	100 SB	16.1	B	24.3	C	26.0	C	50.2	D	13.6	B	17.9	B	No	No

Un satisfactory Level of Service

SB San Bernardino

F Fontana

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

**Table 25. Opening Year Development of Planning Area A Option 1 Opening Year Plus Project Levels of Service**

Intersection		Location %	Opening Year				Opening Year plus Project				Opening Year plus Project MIT				Impact?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>		
6.	Locust Ave/Santa Ana Ave	100 SB	12.7	B	>50	F	14.0	B	>50	F	13.5	B	48.7	E	No	No
7.	Locust Ave/Jurupa Ave	50SB/50F	27.4	D	>50	F	39.8	E	>50	F	12.8	B	24.4	C	No	No
10.	Linden Ave/Jurupa Ave	100 SB	10.6	B	17.4	C	13.7	B	31.4	D	13.4	B	12.8	B	No	No
11.	Cedar Ave/ I-10 WB Ramps	50SB/50C	78.2	E	60.2	E	>80	F	67.0	E	63.7	E	65.5	E	No	No
14.	Cedar Ave/Slover Ave	100 SB	56	E	70.5	E	62.9	E	78.3	E	42.5	D	43.0	D	No	No
16.	Cedar Ave/Jurupa Ave	100 SB	>80	F	>80	F	>80	F	>80	F	19.1	B	25.8	C	No	No
20.	Rubidoux Blvd/Market St	100 JV	72.9	E	>80	F	73.9	E	>80	F	37.6	D	47.7	D	No	No
22.	Market St/24th St	100 JV	25.7	C	72.2	E	26.9	C	77.7	E	23.3	C	49.3	D	No	No

Unsatisfactory Level of Service

SB San Bernardino

F Fontana

C Caltrans

JV Jurupa Valley

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service



**Table 26. Opening Year Development of Planning Area A Option 2 Opening Year Plus Project Levels of Service**

Intersection		Location %	Opening Year				Opening Year plus Project				Opening Year plus Project MIT				Impact?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM
			Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>		
6.	Locust Ave/Santa Ana Ave	100 SB	12.7	B	>50	F	14.5	B	>50	F	13.9	B	53.6	F	No	No
7.	Locust Ave/Jurupa Ave	50SB/50F	27.4	D	>50	F	44.6	E	>50	F	13.1	B	27.4	C	No	No
10.	Linden Ave/Jurupa Ave	100 SB	10.6	B	17.4	C	15.4	C	39.1	E	15.1	C	13.5	B	No	No
11.	Cedar Ave/ I-10 WB Ramps	50SB/50C	78.2	E	60.2	E	>80	F	69.2	E	64.5	E	69.7	E	No	No
14.	Cedar Ave/Slover Ave	100 SB	56	E	70.5	E	62.8	E	>80	F	42.5	D	43.6	D	No	No
16.	Cedar Ave/Jurupa Ave	100 SB	>80	F	>80	F	>80	F	>80	F	20.1	C	26.6	C	No	No
20.	Rubidoux Blvd/Market St	100 JV	72.9	E	>80	F	74.1	E	>80	F	37.6	D	47.9	D	No	No
22.	Market St/24th St	100 JV	25.7	C	72.2	E	27.5	C	79.5	E	23.6	C	50.1	D	No	No

Unsatisfactory Level of Service

SB San Bernardino

F Fontana

C Caltrans

JV Jurupa Valley

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

**Table 27. Opening Year Development of Planning Area A Option 1 2040 Plus Project Levels of Service**

Intersection	Location %	2040				2040 plus Project				2040 plus Project MIT				Baseline - MIT		Impact?	
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
		Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>				
1. Sierra Ave/I-10 Ramps	50F/50C	41.8	D	>80	F	41.8	D	>80	F	40.0	D	69.2	E	-1.8	-39.0	No	No
2. Sierra Ave/Slover Ave	100 F	35.5	D	>80	F	35.4	D	>80	F	35.4	D	341.0	F	-0.1	-25.5	No	No
4. Sierra Ave/Santa Ana Ave	100 F	19.5	B	>80	F	20.3	C	>80	F	20.0	C	110.1	F	0.5	-17.7	No	No
5. Laurel Ave/Santa Ana Ave	100 SB	11.6	B	>50	F	13.1	B	>50	F	10.2	B	360.6	F	-1.5	-580.1	No	No
6. Locust Ave/Santa Ana Ave	100 SB	45.4	E	>50	F	>50	F	>50	F	27.3	D	1022.2	F	-18.1	-985.8	No	No
7. Locust Ave/Jurupa Ave	50SB/50F	15.0	C	>50	F	16.7	C	>50	F	8.0	A	325.8	F	-7.1	-9674.3	No	No
8. Maple Ave/Santa Ana Ave	100 SB	17.9	C	>50	F	18.7	C	>50	F	18.7	C	1330.9	F	0.8	-2148.6	No	No
9. Maple Ave/Jurupa Ave	100 SB	10.9	B	>50	F	11.8	B	>50	F	9.6	A	14.6	B	-1.3	-82.8	No	No
10. Linden Ave/Jurupa Ave	100 SB	8.5	A	>50	F	9.1	A	>50	F	8.7	A	40.9	E	0.2	-114.4	No	No
11. Cedar Ave/I-10 WB Ramps	50SB/50C	47.4	D	>80	F	51.9	D	>80	F	34.2	C	109.2	F	-13.2	-53.5	No	No
12. Cedar Ave/I-10 EB Ramps	50SB/50C	55.4	E	>80	F	58.4	E	>80	F	39.8	D	67.0	E	-15.6	-21.9	No	No
13. Cedar Ave/Orange Street	100 SB	8.9	A	>80	F	9.1	A	>80	F	14.1	B	197.2	F	5.2	-24.6	No	No
14. Cedar Ave/Slover Ave	100 SB	38.1	D	>80	F	38.6	D	>80	F	31.6	C	163.5	F	-6.5	-43.8	No	No
15. Cedar Ave/Santa Ana Ave	100 SB	13.3	B	>80	F	13.5	B	>80	F	14.1	B	73.8	E	0.8	-148.7	No	No
16. Cedar Ave/Jurupa Ave	100 SB	52.0	D	>80	F	78.2	E	>80	F	17.2	C	59.5	E	-34.9	-196.2	No	No
17. Cedar Ave/11th St	100 SB	9.3	A	60.7	E	9.3	A	65.3	E	8.4	A	46.4	D	-0.9	-18.9	No	No
18. Cedar Ave/7th St	100 SB	13.9	B	>80	F	13.9	B	>80	F	13.9	B	85.6	F	0.0	-25.2	No	No
20. Rubidoux Blvd/Market St	100 JV	52.8	D	>80	F	53.9	D	>80	F	33.6	D	76.1	E	-19.2	-51.6	No	No
22. Market St/24th St	100 JV	18.1	B	>80	F	18.4	B	>80	F	16.9	B	107.3	F	-1.3	-45.9	No	No
25. Market St/SR-60 EB Ramp	50R/50C	22.9	C	48.3	D	23.1	C	51.1	D	18.5	B	34.2	C	-4.4	-16.9	No	No

Unsatisfactory Level of Service

- SB San Bernardino
- F Fontana
- C Caltrans
- JV Jurupa Valley
- R Riverside

<sup>1</sup> Delay in Seconds

<sup>2</sup> Level of Service

**Table 28. Opening Year Development of Planning Area A Option 2 2040 Plus Project Levels of Service**

Intersection	Location %	2040				2040 plus Project				2040 plus Project MIT				Baseline - MIT		Impact?	
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
		Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>	Delay <sup>1</sup>	LOS <sup>2</sup>				
1. Sierra Ave/I-10 Ramps	50F/50C	41.8	D	>80	F	41.9	D	>80	F	40.0	D	69.6	E	-1.8	-39.1	No	No
2. Sierra Ave/Slover Ave	100 F	35.5	D	>80	F	35.4	D	>80	F	35.4	D	342.2	F	-0.1	-25.5	No	No
4. Sierra Ave/Santa Ana Ave	100 F	19.5	B	>80	F	20.7	C	>80	F	20.3	C	110.9	F	0.8	-17.9	No	No
5. Laurel Ave/Santa Ana Ave	100 SB	11.6	B	>50	F	13.8	B	>50	F	10.3	B	378.6	F	-1.3	-595.5	No	No
6. Locust Ave/Santa Ana Ave	100 SB	45.4	E	>50	F	>50	F	>50	F	28.8	D	1030.7	F	-16.6	-1008.9	No	No
7. Locust Ave/Jurupa Ave	50SB/50F	15.0	C	>50	F	17.2	C	>50	F	8.4	A	334.1	F	-6.6	-9666.0	No	No
8. Maple Ave/Santa Ana Ave	100 SB	17.9	C	>50	F	19.1	C	>50	F	16.9	C	1467.8	F	-1.0	-2393.1	No	No
9. Maple Ave/Jurupa Ave	100 SB	10.9	B	>50	F	12.1	B	>50	F	9.8	A	14.9	B	-1.2	-109.7	No	No
10. Linden Ave/Jurupa Ave	100 SB	8.5	A	>50	F	9.3	A	>50	F	8.9	A	47.0	E	0.4	-125.0	No	No
11. Cedar Ave/I-10 WB Ramps	50SB/50C	47.4	D	>80	F	53.4	D	>80	F	35.1	D	111.3	F	-12.3	-53.2	No	No
12. Cedar Ave/I-10 EB Ramps	50SB/50C	55.4	E	>80	F	59.5	E	>80	F	40.6	D	67.6	E	-14.8	-22.7	No	No
13. Cedar Ave/Orange Street	100 SB	8.9	A	>80	F	9.2	A	>80	F	14.1	B	203.0	F	5.2	-22.2	No	No
14. Cedar Ave/Slover Ave	100 SB	38.1	D	>80	F	38.8	D	>80	F	31.7	C	166.3	F	-6.4	-44.2	No	No
15. Cedar Ave/Santa Ana Ave	100 SB	13.3	B	>80	F	13.6	B	>80	F	14.2	B	76.7	E	0.9	-151.3	No	No
16. Cedar Ave/Jurupa Ave	100 SB	52.0	D	>80	F	>80	F	>80	F	17.9	B	75.6	E	-34.1	-198.3	No	No
17. Cedar Ave/11th St	100 SB	9.3	A	60.7	E	9.3	A	67.0	E	8.4	B	47.4	D	-0.9	-19.6	No	No
18. Cedar Ave/7th St	100 SB	13.9	B	>80	F	13.9	B	>80	F	13.9	B	85.8	F	0.0	-27.2	No	No
20. Rubidoux Blvd/Market St	100 JV	52.8	D	>80	F	54.1	D	>80	F	33.7	C	77.1	E	-19.2	-51.9	No	No
22. Market St/24th St	100 JV	18.1	B	>80	F	18.5	B	>80	F	16.9	B	109.5	F	-1.2	-46.1	No	No
25. Market St/SR-60 EB Ramp	50R/50C	22.9	C	48.3	D	23.1	C	52.0	D	18.5	B	34.2	C	-4.4	-17.8	No	No

Unsatisfactory Level of Service

= 0.0 change in delay is due to 10,000 seconds being the maximum output in Vistro, and since the baseline delay is 10,000 seconds the change in delay is unknown but expected to be significant

- SB San Bernardino
- F Fontana
- C Caltrans
- JV Jurupa Valley
- R Riverside
- <sup>1</sup> Delay in Seconds
- <sup>2</sup> Level of Service

### 6.3 Fair Share for Specific Plan, Project Level Development, and Maximum Reasonable Initial Development

Table 29 identifies the project fair share of recommended improvements for the SP, Table 30 identifies the project's fair share percent of recommended improvements for the OY 1, and Table 31 identifies the project's fair share percent of recommended improvements for the OY 2.

**Table 29. Specific Plan Fair Share and Cost**

Intersection	Proposed Improvements	Existing	Project	2040	2040 with Project	Total New Traffic	Project % of New Traffic	Total Improvement Cost	Project Share	
<b>AM Peak Hour</b>										
1.	Sierra Ave/I-10 Ramps	Add 3rd EB left-turn	6671	139	7610	7749	1078	12.89%	\$85,248.00	\$10,992.09
2.	Sierra Ave/Slover Ave	Convert EBR to shared EB thru-right	4134	139	4856	4995	861	16.14%	\$42,624.00	\$6,881.23
4.	Sierra Ave/Santa Ana Ave	Convert NBR to shared NB thru-right	2698	139	3076	3215	517	26.89%	\$42,624.00	\$11,459.84
5.	Laurel Ave/Santa Ana Ave	Add 2nd EB thru	442	197	741	938	496	39.72%	\$306,894.00	\$121,891.37
6.	Locust Ave/Santa Ana Ave	Add NB left and EB thru	707	166	1344	1510	803	20.67%	\$392,143.00	\$81,065.68
7.	Locust Ave/Jurupa Ave	Signal and add SB and WB left	520	201	733	934	414	100.00%	\$287,225.00	\$287,225.00
8.	Maple Ave/Santa Ana Ave	Add 2nd EB thru	381	99	768	867	486	20.37%	\$306,894.00	\$62,515.44
9.	Maple Ave/Jurupa Ave	Add WB thru and two-stage gap acceptance	174	254	371	625	451	56.32%	\$306,894.00	\$172,840.52
10.	Linden Ave/Jurupa Ave	Convert EBR to shared EB thru-right lane	257	347	395	742	485	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	3rd SB thru to SB thru-right	4597	147	4788	4935	338	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	Add 3rd NB thru	4597	147	4788	4935	338	33.55%	\$306,894.00	\$102,962.94
12.	Cedar Ave/ I-10 EB Ramps	Add EB right turn	3926	249	4711	4960	1034	24.08%	\$596,739.00	\$143,702.14
13.	Cedar Ave/Orange Street	Change EB/WB phasing to split phasing	2943	248	3485	3733	790	31.39%	\$122,469.00	\$38,445.96
14.	Cedar Ave/Slover Ave	2nd EB left turn	2865	248	3274	3522	657	100.00%	\$57,445.00	\$57,445.00
15.	Cedar Ave/Santa Ana Ave	Add EB and WB left-turn	2119	250	2252	2502	383	65.27%	\$170,497.00	\$111,290.47
16.	Cedar Ave/Jurupa Ave	Add EB left-turn	1942	348	2500	2848	906	100.00%	\$85,248.00	\$85,248.00
17.	Cedar Ave/11th St	Add EB left-turn	1810	138	2249	2387	577	23.92%	\$85,248.00	\$20,388.60
18.	Cedar Ave/7th St	Add EB left-turn	1754	138	2625	2763	1009	13.68%	\$85,248.00	\$11,659.29
20.	Rubidoux Blvd/Market St	Add 2nd SB left-turn	2443	118	3289	3407	964	12.24%	\$85,248.00	\$10,434.92
22.	Market St/24th Street	Add WB left-turn	1948	84	2115	2199	251	33.47%	\$85,248.00	\$28,529.21
25.	Market St/SR-60 EB Ramp	Add SB left-turn	1809	17	2446	2463	654	100.00%	\$85,248.00	\$85,248.00
<b>PM Peak Hour</b>										
1.	Sierra Ave/I-10 Ramps	Add 3rd EB left-turn	7222	168	10317	10485	3263	5.15%	\$85,248.00	\$4,389.11
2.	Sierra Ave/Slover Ave	Convert EBR to shared EB thru-right	5643	168	11966	12134	6491	2.59%	\$42,624.00	\$1,103.19
4.	Sierra Ave/Santa Ana Ave	Convert NBR to shared NB thru-right	3561	168	7155	7323	3762	4.47%	\$42,624.00	\$1,903.46
5.	Laurel Ave/Santa Ana Ave	Add 2nd EB thru	765	239	2868	3107	2342	10.20%	\$306,894.00	\$31,318.39
6.	Locust Ave/Santa Ana Ave	Add NB left and EB thru	1341	200	5128	5328	3987	5.02%	\$392,143.00	\$19,671.08
7.	Locust Ave/Jurupa Ave	Signal and add SB and WB left	977	215	2991	3206	2229	100.00%	\$287,225.00	\$287,225.00
8.	Maple Ave/Santa Ana Ave	Add 2nd EB thru	662	119	1963	2082	1420	8.38%	\$306,894.00	\$25,718.58
9.	Maple Ave/Jurupa Ave	Add WB thru and two-stage gap acceptance	343	272	1646	1918	1575	17.27%	\$306,894.00	\$53,000.11
10.	Linden Ave/Jurupa Ave	Convert EBR to shared EB thru-right lane	538	382	1560	1942	1404	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	3rd SB thru to SB thru-right	4396	162	7151	7313	2917	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	Add 3rd NB thru	4396	162	7151	7313	2917	5.55%	\$306,894.00	\$17,043.82
12.	Cedar Ave/ I-10 EB Ramps	Add EB right turn	3815	279	5861	6140	2325	12.00%	\$596,739.00	\$71,608.68
13.	Cedar Ave/Orange Street	Change EB/WB phasing to split phasing	2965	278	5530	5808	2843	9.78%	\$122,469.00	\$11,975.51
14.	Cedar Ave/Slover Ave	2nd EB left turn	3113	278	5440	5718	2605	100.00%	\$57,445.00	\$57,445.00
15.	Cedar Ave/Santa Ana Ave	Add EB and WB left-turn	2448	279	3996	4275	1827	15.27%	\$170,497.00	\$26,036.49
16.	Cedar Ave/Jurupa Ave	Add EB left-turn	2263	384	4161	4545	2282	100.00%	\$85,248.00	\$85,248.00
17.	Cedar Ave/11th St	Add EB left-turn	2007	153	4409	4562	2555	5.99%	\$85,248.00	\$5,104.87
18.	Cedar Ave/7th St	Add EB left-turn	2202	152	4715	4867	2665	5.70%	\$85,248.00	\$4,862.17
20.	Rubidoux Blvd/Market St	Add 2nd SB left-turn	2707	130	5362	5492	2785	4.67%	\$85,248.00	\$3,979.26
22.	Market St/24th Street	Add WB left-turn	2346	97	3465	3562	1216	7.98%	\$85,248.00	\$6,800.21
25.	Market St/SR-60 EB Ramp	Add SB left-turn	2479	68	4892	4960	2481	100.00%	\$85,248.00	\$85,248.00
<b>Total Fair Share</b>									<b>\$1,535,473.70</b>	

**Table 30. Opening Year Development of Planning Area A Option 1 Fair Share and Cost**

Intersection	Proposed Improvements	Existing	Project	2040	2040 with Project	Total New Traffic	Project % of New Traffic	Total Improvement Cost	Project Share	
<b>AM Peak Hour</b>										
1.	Sierra Ave/I-10 Ramps	Add 3rd EB left-turn	6671	58	7610	7668	997	5.82%	\$85,248.00	\$4,959.26
2.	Sierra Ave/Slover Ave	Convert EBR to shared EB thru-right	4134	59	4856	4915	781	7.55%	\$42,624.00	\$3,219.99
4.	Sierra Ave/Santa Ana Ave	Convert NBR to shared NB thru-right	2698	59	3076	3135	437	13.50%	\$42,624.00	\$5,754.73
5.	Laurel Ave/Santa Ana Ave	Add 2nd EB thru	442	84	741	825	383	21.93%	\$306,894.00	\$67,308.34
6.	Locust Ave/Santa Ana Ave	Add NB left and EB thru	707	72	1344	1416	709	10.16%	\$392,143.00	\$39,822.70
7.	Locust Ave/Jurupa Ave	Signal and add SB and WB left	520	86	733	819	299	28.76%	\$287,225.00	\$82,613.21
8.	Maple Ave/Santa Ana Ave	Add 2nd EB thru	381	42	768	810	429	9.79%	\$306,894.00	\$30,045.57
9.	Maple Ave/Jurupa Ave	Add WB thru and two-stage gap acceptance	174	109	371	480	306	35.62%	\$306,894.00	\$109,318.45
10.	Linden Ave/Jurupa Ave	Convert EBR to shared EB thru-right lane	257	148	395	543	286	51.75%	\$42,624.00	\$22,057.17
11.	Cedar Ave/ I-10 WB Ramps	3rd SB thru to SB thru-right	4597	64	4788	4852	255	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	Add 3rd NB thru	4597	64	4788	4852	255	33.55%	\$306,894.00	\$102,962.94
12.	Cedar Ave/ I-10 EB Ramps	Add EB right turn	3926	108	4711	4819	893	12.09%	\$596,739.00	\$72,170.00
13.	Cedar Ave/Orange Street	Change EB/WB phasing to split phasing	2943	107	3485	3592	649	16.49%	\$122,469.00	\$20,191.35
14.	Cedar Ave/Slover Ave	2nd EB left turn	2865	107	3274	3381	516	20.74%	\$57,445.00	\$11,912.04
15.	Cedar Ave/Santa Ana Ave	Add EB and WB left-turn	2119	108	2252	2360	241	44.81%	\$170,497.00	\$76,405.29
16.	Cedar Ave/Jurupa Ave	Add EB left-turn	1942	149	2500	2649	707	21.07%	\$85,248.00	\$17,965.99
17.	Cedar Ave/11th St	Add EB left-turn	1810	58	2249	2307	497	11.67%	\$85,248.00	\$9,948.46
18.	Cedar Ave/7th St	Add EB left-turn	1754	58	2625	2683	929	6.24%	\$85,248.00	\$5,322.26
20.	Rubidoux Blvd/Market St	Add 2nd SB left-turn	2443	50	3289	3339	896	5.58%	\$85,248.00	\$4,757.14
22.	Market St/24th Street	Add WB left-turn	1948	36	2115	2151	203	17.73%	\$85,248.00	\$15,117.87
<b>PM Peak Hour</b>										
1.	Sierra Ave/I-10 Ramps	Add 3rd EB left-turn	7222	79	10317	10396	3174	2.49%	\$85,248.00	\$2,121.80
2.	Sierra Ave/Slover Ave	Convert EBR to shared EB thru-right	5643	80	11966	12046	6403	1.25%	\$42,624.00	\$532.55
4.	Sierra Ave/Santa Ana Ave	Convert NBR to shared NB thru-right	3561	80	7155	7235	3674	2.18%	\$42,624.00	\$928.12
5.	Laurel Ave/Santa Ana Ave	Add 2nd EB thru	765	112	2868	2980	2215	5.06%	\$306,894.00	\$15,517.89
6.	Locust Ave/Santa Ana Ave	Add NB left and EB thru	1341	93	5128	5221	3880	2.40%	\$392,143.00	\$9,399.30
7.	Locust Ave/Jurupa Ave	Signal and add SB and WB left	977	102	2991	3093	2116	4.82%	\$287,225.00	\$13,845.44
8.	Maple Ave/Santa Ana Ave	Add 2nd EB thru	662	57	1963	2020	1358	4.20%	\$306,894.00	\$12,881.41
9.	Maple Ave/Jurupa Ave	Add WB thru and two-stage gap acceptance	343	127	1646	1773	1430	8.88%	\$306,894.00	\$27,255.62
10.	Linden Ave/Jurupa Ave	Convert EBR to shared EB thru-right lane	538	179	1560	1739	1201	14.90%	\$42,624.00	\$6,352.79
11.	Cedar Ave/ I-10 WB Ramps	3rd SB thru to SB thru-right	4396	75	7151	7226	2830	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	Add 3rd NB thru	4396	75	7151	7226	2830	2.65%	\$306,894.00	\$8,133.23
12.	Cedar Ave/ I-10 EB Ramps	Add EB right turn	3815	128	5861	5989	2174	5.89%	\$596,739.00	\$35,134.59
13.	Cedar Ave/Orange Street	Change EB/WB phasing to split phasing	2965	128	5530	5658	2693	4.75%	\$122,469.00	\$5,821.03
14.	Cedar Ave/Slover Ave	2nd EB left turn	3113	128	5440	5568	2455	5.21%	\$57,445.00	\$2,995.10
15.	Cedar Ave/Santa Ana Ave	Add EB and WB left-turn	2448	129	3996	4125	1677	7.69%	\$170,497.00	\$13,115.15
16.	Cedar Ave/Jurupa Ave	Add EB left-turn	2263	178	4161	4339	2076	8.57%	\$85,248.00	\$7,309.32
17.	Cedar Ave/11th St	Add EB left-turn	2007	72	4409	4481	2474	2.91%	\$85,248.00	\$2,480.94
18.	Cedar Ave/7th St	Add EB left-turn	2202	73	4715	4788	2586	2.82%	\$85,248.00	\$2,406.46
20.	Rubidoux Blvd/Market St	Add 2nd SB left-turn	2707	62	5362	5424	2717	2.28%	\$85,248.00	\$1,945.30
22.	Market St/24th Street	Add WB left-turn	2346	45	3465	3510	1164	3.87%	\$85,248.00	\$3,295.67
<b>Total Fair Share</b>									\$	744,476.78

**Table 31. Opening Year Development of Planning Area A Option 2 Fair Share and Cost**

Intersection	Proposed Improvements	Existing	Project	2040	2040 with Project	Total New Traffic	Project % of New Traffic	Total Improvement Cost	Project Share	
<b>AM Peak Hour</b>										
1.	Sierra Ave/I-10 Ramps	Add 3rd EB left-turn	6671	82	7610	7692	1021	8.03%	\$85,248.00	\$6,846.56
2.	Sierra Ave/Slover Ave	Convert EBR to shared EB thru-right	4134	81	4856	4937	803	10.09%	\$42,624.00	\$4,299.56
4.	Sierra Ave/Santa Ana Ave	Convert NBR to shared NB thru-right	2698	81	3076	3157	459	17.65%	\$42,624.00	\$7,521.88
5.	Laurel Ave/Santa Ana Ave	Add 2nd EB thru	442	116	741	857	415	27.95%	\$306,894.00	\$85,782.42
6.	Locust Ave/Santa Ana Ave	Add NB left and EB thru	707	97	1344	1441	734	13.22%	\$392,143.00	\$51,822.71
7.	Locust Ave/Jurupa Ave	Signal and add SB and WB left	520	110	733	843	323	34.06%	\$287,225.00	\$97,816.56
8.	Maple Ave/Santa Ana Ave	Add 2nd EB thru	381	58	768	826	445	13.03%	\$306,894.00	\$39,999.67
9.	Maple Ave/Jurupa Ave	Add WB thru and two-stage gap acceptance	174	141	371	512	338	41.72%	\$306,894.00	\$128,023.83
10.	Linden Ave/Jurupa Ave	Convert EBR to shared EB thru-right lane	257	194	395	589	332	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	3rd SB thru to SB thru-right	4597	84	4788	4872	275	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	Add 3rd NB thru	4597	84	4788	4872	275	33.55%	\$306,894.00	\$102,962.94
12.	Cedar Ave/ I-10 EB Ramps	Add EB right turn	3926	140	4711	4851	925	15.14%	\$596,739.00	\$90,317.25
13.	Cedar Ave/Orange Street	Change EB/WB phasing to split phasing	2943	140	3485	3625	682	20.53%	\$122,469.00	\$25,140.26
14.	Cedar Ave/Slover Ave	2nd EB left turn	2865	140	3274	3414	549	100.00%	\$57,445.00	\$57,445.00
15.	Cedar Ave/Santa Ana Ave	Add EB and WB left-turn	2119	141	2252	2393	274	51.46%	\$170,497.00	\$87,737.51
16.	Cedar Ave/Jurupa Ave	Add EB left-turn	1942	194	2500	2694	752	25.80%	\$85,248.00	\$21,992.17
17.	Cedar Ave/11th St	Add EB left-turn	1810	77	2249	2326	516	14.92%	\$85,248.00	\$12,721.12
18.	Cedar Ave/7th St	Add EB left-turn	1754	76	2625	2701	947	8.03%	\$85,248.00	\$6,841.44
20.	Rubidoux Blvd/Market St	Add 2nd SB left-turn	2443	66	3289	3355	912	7.24%	\$85,248.00	\$6,169.26
22.	Market St/24th Street	Add WB left-turn	1948	48	2115	2163	215	22.33%	\$85,248.00	\$19,032.11
<b>PM Peak Hour</b>										
1.	Sierra Ave/I-10 Ramps	Add 3rd EB left-turn	7222	109	10317	10426	3204	3.40%	\$85,248.00	\$2,900.13
2.	Sierra Ave/Slover Ave	Convert EBR to shared EB thru-right	5643	109	11966	12075	6432	1.69%	\$42,624.00	\$722.33
4.	Sierra Ave/Santa Ana Ave	Convert NBR to shared NB thru-right	3561	109	7155	7264	3703	2.94%	\$42,624.00	\$1,254.66
5.	Laurel Ave/Santa Ana Ave	Add 2nd EB thru	765	155	2868	3023	2258	6.86%	\$306,894.00	\$21,066.68
6.	Locust Ave/Santa Ana Ave	Add NB left and EB thru	1341	133	5128	5261	3920	3.39%	\$392,143.00	\$13,304.85
7.	Locust Ave/Jurupa Ave	Signal and add SB and WB left	977	133	2991	3124	2147	6.19%	\$287,225.00	\$17,792.70
8.	Maple Ave/Santa Ana Ave	Add 2nd EB thru	662	78	1963	2041	1379	5.66%	\$306,894.00	\$17,358.76
9.	Maple Ave/Jurupa Ave	Add WB thru and two-stage gap acceptance	343	167	1646	1813	1470	11.36%	\$306,894.00	\$34,864.83
10.	Linden Ave/Jurupa Ave	Convert EBR to shared EB thru-right lane	538	237	1560	1797	1259	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	3rd SB thru to SB thru-right	4396	99	7151	7250	2854	100.00%	\$42,624.00	\$42,624.00
11.	Cedar Ave/ I-10 WB Ramps	Add 3rd NB thru	4396	99	7151	7250	2854	3.47%	\$306,894.00	\$10,645.59
12.	Cedar Ave/ I-10 EB Ramps	Add EB right turn	3815	170	5861	6031	2216	7.67%	\$596,739.00	\$45,778.71
13.	Cedar Ave/Orange Street	Change EB/WB phasing to split phasing	2965	170	5530	5700	2735	6.22%	\$122,469.00	\$7,612.33
14.	Cedar Ave/Slover Ave	2nd EB left turn	3113	170	5440	5610	2497	100.00%	\$57,445.00	\$57,445.00
15.	Cedar Ave/Santa Ana Ave	Add EB and WB left-turn	2448	170	3996	4166	1718	9.90%	\$170,497.00	\$16,871.07
16.	Cedar Ave/Jurupa Ave	Add EB left-turn	2263	237	4161	4398	2135	11.10%	\$85,248.00	\$9,463.13
17.	Cedar Ave/11th St	Add EB left-turn	2007	98	4409	4507	2500	3.92%	\$85,248.00	\$3,341.72
18.	Cedar Ave/7th St	Add EB left-turn	2202	99	4715	4814	2612	3.79%	\$85,248.00	\$3,231.07
20.	Rubidoux Blvd/Market St	Add 2nd SB left-turn	2707	83	5362	5445	2738	3.03%	\$85,248.00	\$2,584.22
22.	Market St/24th Street	Add WB left-turn	2346	60	3465	3525	1179	5.09%	\$85,248.00	\$4,338.32
<b>Total Fair Share</b>									\$	937,720.26

Project impacts would be mitigated by payment of a fair-share of the planned improvements in the amount of \$1,535,473.70 for the SP, \$744,476.78 for the OY 1, and \$937,720.26 for the OY 2.

### 6.4 Signal Warrant

The California Manual of Uniform Traffic Control Devices (CA MUTCD) 2014 Revision 5 provides a total of eight types of signal warrant analyses to determine whether a traffic signal may be warranted at a given location. Warrant 3, Peak Hour was evaluated as count data is unavailable to evaluate the other 7 warrants. Section 4.C.04 of the CA MUTCD notes that “traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.” Intersection #7 Locust Avenue/Jurupa Avenue was analyzed to substantiate the proposed signal for mitigation. The analysis can be found in Appendix F. As seen in Table 32, by the project opening year, the traffic volume at the intersection with either the SP, PD, or MD would meet the signal warrant.

**Table 32. Traffic Signal Warrant Analysis Summary**

Locust Ave/Jurupa Ave	Baseline		Baseline plus SP Project		Baseline plus OY 1 Project		Baseline plus OY 2 Project	
	AM	PM	AM	PM	AM	PM	AM	PM
Existing	No	No	No	No	No	No	No	No
Opening Year	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2040	No	Yes	No	Yes	No	Yes	No	Yes



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*APPENDIX A – SCOPE OF WORK*

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## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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This Scope for Traffic Study acknowledges San Bernardino County Department of Public Works, Traffic Division requirements of traffic impact analysis for the project and is subject to change:

<b>Project Address:</b>	APNs: 0256-091-03, 04, 06, 07, 23, 24, 29, 30, 32, 33, 43, 44; 0256-101-02, 03, 4, 5, 6, 7, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 30, 32, 33, 34, 35, 36, 38, 45, 48, 49, 55, 56, 57, 58, 59, 60; 0256-111-02, 06, 07, 08, 09, 10, 11, 18, 19, 22, 23, 26, 27, 28, 29, 31, 32, 34, 35, 37, 38, 39, 40, 41, 42, 43, 44, 45, 48, 49, 50, 51, 52, 53, 55, 56, 58, 59, 60, 61; 0256-121-37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48; 0256-241-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19.		
<b>Project Description:</b>	The Project proposes creating a specific plan area with the potential of developing 2,678,940 SF, with an initial phase constructing three industrial buildings totaling 2,085,640 SF. Two buildings (totaling 834,000 SF) are Fulfillment Center Warehouses, and the third building (1,251,640 SF) is a High Cube Transload and Short-Term Storage Warehouse.		
<b>City:</b>	Unincorporated County of San Bernardino		
<b>Project Buildout Year:</b>	2022 (2040)	<b>Ambient Growth Rate per Year:</b>	1%
<b>Closest Intersection (Xtn) to the Project</b>			
<b>Xtn N/S Street Name:</b>	Linden Avenue, Maple Avenue, Locust Avenue, Laurel Avenue		
<b>Xtn E/W Street Name:</b>	Jurupa Avenue, Santa Ana Avenue		
<b>Thomas Guide Pg+Grid:</b>		<b>County Supervisorial District:</b>	2

	Engineer	Developer
<b>Company:</b>	EPD Solutions, Inc.	Howard Industrial Partners
<b>Name:</b>	Meghan Macias, TE	Timothy Howard
<b>Address:</b>	2 Park Plaza, Suite 1120	1944 North Tustin Street, Suite 122
<b>City, State, Zip Code:</b>	Irvine, CA 92614	Orange, California 92865
<b>Phone #:</b>	949-794-1186	714-272-5318
<b>Fax #:</b>		
<b>Email:</b>	<a href="mailto:meghan@epdsolutions.com">meghan@epdsolutions.com</a>	<a href="mailto:thoward@hipre.net">thoward@hipre.net</a>

By: Meghan Macias

Reviewed By: \_\_\_\_\_



## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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**Print Name:** Meghan Macias

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**Print Name:**

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**Consultant/Developer's  
Representative**

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**Date:**  
7/16/2020

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**Traffic Division Representative      Date**



## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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**1. Traffic Distribution:** Please insert or attach Figure(s) illustrating project trip distribution in percentages and volumes at the study intersections analyzed.

See Figures attached.

**2. Trip Credit:** Exact amount of credit subject to approval by Traffic Division pending comments and findings of City of Rialto.

<b>Transportation Demand Management (TDM)</b>	Yes/ <b>no</b>	
<b>Existing Active Land Use</b>	Yes/ <b>no</b>	
<b>Previous Land Use</b>	Yes/ <b>no</b>	
<b>Internal Trip Reduction</b>	Yes/ <b>no</b>	
<b>Pass-by Trip Reduction</b>	Yes/ <b>no</b>	

**3. Related Projects:** Consultant should check with Planning in the San Bernardino County Department of Land Use Services and planning departments of adjoining Cities. Documentation of the consultation from these agencies shall be included in the traffic study. Related projects list shall be submitted to Traffic Division for review and approval before being incorporated in the study.

EPD will contact the Planning Department of the Cities of Fontana, Jurupa, and Riverside as well as the County of San Bernardino for cumulative projects. A preliminary list of projects that were publicly available were gathered and are listed below.

- County of San Bernardino
  - Agua Mansa High Cube Warehouse
  - Alder Ave Industrial
  - Bloomington Affordable Housing Project
  - Bloomington Business Center
  - Bloomington High Cube Warehouse
  - Bloomington Industrial Facility
  - Cedar Ave Technology Center
  - Chevron Slover-Cedar
  - Slover High Cube Warehouse
  - Slover-Cactus Warehouse
  - West Valley Logistics Center
- Fontana
  - Fontana Foothills Commerce Center
  - Goodman Industrial Park
- Jurupa Valley
  - 12340 Agua Mansa Road
  - Highland Park
  - Market Street Commercial
- Rialto
  - Valley Spruce



## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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**4. Freeway Analysis:** The potential traffic impact on the following Freeway(s) must be considered.

The project would evaluate the off-ramp queues at Sierra Avenue and Cedar Avenue and freeway Mainline segments on I-215 from west of Sierra Avenue to east of Cedar Avenue, and on SR-60 east of Market Street.

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The applicant shall consult with the State of California Department of Transportation (Caltrans) to determine the California Environmental Quality Act levels of significance with regard to traffic impacts on Caltrans' freeway facilities. This consultation shall also include a determination of Caltrans requirements for the study of traffic impacts to its facilities and the mitigation of any such impacts. This analysis must follow the most current Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) and can be obtained from [http://www.dot.ca.gov/hq/tpp/offices/ocp/igr\\_ceqa\\_files/tisguide.pdf](http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf). If Caltrans finds that the project has a significant impact on the freeway, Caltrans shall be requested to include the basis for this finding in their response. If fees are proposed to mitigate the freeway impact, Caltrans shall be requested to identify the specific project to which the fees will apply. These written comments from Caltrans shall be included with the traffic study and submitted to Public Works for review and approval. If a documented good faith effort is made to consult with Caltrans and written comments cannot be obtained from within a reasonable amount of time, an analysis of the freeway impact shall be made using HCM procedures. Appendix A of the SANBAG CMP outlines allowable modifications to these procedures. The SANBAG CMP can be viewed online at: <https://www.gosbcta.com/plans-projects/plans-traffic-mitigation.html>



## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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### 5. Trip Generation (See Attached Trip Generation Table)

<b>Trip Generation Rate(s) Source:</b> ITE Trip Generation, TUMF High-Cube Warehouse Trip Generation Study			<b>I – Institute of Transportation Engineers; S – San Diego Traffic Generators; C – County; O – Other:</b>					<b>Edition:</b>		10th	
Land Use Code	Land Use	Rate Based on	Qty	*AVTE vs	ADT	Weekday a.m. peak		Weekday p.m. peak		Weekend peak hour	
						In	Out	In	Out	In	Out
154	High Cube Transload and Short-Term Storage Warehouse	I	1,251.64 TSF	LU 154 – High Cube Transload and Short-Term Storage Warehouse	1,752	77	23	35	90		
	Fulfillment Center	O	839 TSF		1,786	83	19	54	84		
130	Industrial Park	I	588.3 TSF	LU 130 – Industrial Park	1,983	191	45	49	186		
	Total				5,521	351	87	138	360		

\* - Average Vehicle Trip Ends.  
For ITE Land Uses provide number and name of Land Use. e.g. LU 814 - Variety Store



## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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**6. Study Intersections:** At minimum, the study shall include the following intersections. The list is subject to change based on the determination of related projects, trip generation and distribution, and/or other sensitive intersections are identified based on study findings and/or concurrent development. Consultant should check with adjoining Cities regarding their requirements in addition to the following County/City intersections. Documentation of the consultation from these agencies shall be included in the traffic study.

Xtn #	% County	Thomas Guide Page+Grid	N/S + E/W Street Name	City	Signalized	CMP
1	0		Sierra Ave/I-10 Ramps	Fontana	Yes/no	Yes/no
2	0		Sierra Ave/Slover Ave	Fontana	Yes/no	Yes/no
3	0		Sierra Ave/Technology St	Fontana	Yes/no	Yes/no
4	0		Sierra Ave/Santa Ana Ave	Fontana	Yes/no	Yes/no
5	100		Laurel Ave/Santa Ana Ave	County	Yes/no	Yes/no
6	100		Locust Ave/Santa Ana Ave	County	Yes/no	Yes/no
7	50		Locust Ave/Jurupa Ave	Fontana	Yes/no	Yes/no
8	100		Maple Ave/Santa Ana Ave	County	Yes/no	Yes/no
9	75		Maple Ave/Jurupa Ave	Fontana	Yes/no	Yes/no
10	100		Linden Ave/Jurupa Ave	County	Yes/no	Yes/no
11	100		Cedar Ave/I-10 WB Ramp	County	Yes/no	Yes/no
12	100		Cedar Ave/I-10 EB Ramp	County	Yes/no	Yes/no



## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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13	100		Cedar Ave/Orange St	County	Yes/no	Yes/no
14	100		Cedar Ave/Slover Ave	County	Yes/no	Yes/no
15	100		Cedar Ave/Santa Ana Ave	County	Yes/no	Yes/no
16	100		Cedar Ave/Jurupa Ave	County	Yes/no	Yes/no
17	100		Cedar Ave/11 <sup>th</sup> St	County	Yes/no	Yes/no
18	100		Cedar Ave/7 <sup>th</sup> St	County	Yes/no	Yes/no
19	50		Cedar Ave/El Rivino Dr	Jurupa Valley	Yes/no	Yes/no
20	0		Rubidoux Blvd/Market St	Jurupa Valley	Yes/no	Yes/no
21	0		Agua Mansa Rd/Market St	Jurupa Valley	Yes/no	Yes/no
22	0		Market St/24 <sup>th</sup> St	Jurupa Valley	Yes/no	Yes/no
23	0		Market St/Rivera St	Riverside	Yes/no	Yes/no
24	0		Market St/SR-60 WB Ramp	Riverside	Yes/no	Yes/no
25	0		Market St/SR-60 EB Ramp	Riverside	Yes/no	Yes/no
26	100		Laurel Ave/Driveway 1	County	Yes/no	Yes/no
27	100		Laurel Ave/Driveway 2	County	Yes/no	Yes/no
28	100		Locust Ave/Driveway 3	County	Yes/no	Yes/no
29	100		Locust Ave/Driveway 4	County	Yes/no	Yes/no





## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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30	100		Locust Ave/Driveway 5	County	Yes/no	Yes/no
31	100		Locust Ave/Driveway 6	County	Yes/no	Yes/no
32	50		Driveway 7/Jurupa Valley	Fontana	Yes/no	Yes/no
33	100		Maple Ave/Driveway 8	County	Yes/no	Yes/no
34	100		Maple Ave/Driveway 9	County	Yes/no	Yes/no
35	100		Maple Ave/Driveway 10	County	Yes/no	Yes/no
36	100		Linden Ave/Driveway 11	County	Yes/no	Yes/no
37	100		Linden Ave/Driveway 12	County	Yes/no	Yes/no

Please see Figures attached showing proposed trip distribution and assignment at study intersections.

Cities to be consulted: Fontana, Jurupa Valley, Riverside

**7. Scenarios to be Studied:** The study shall analyze the Project in the following scenarios listed below.

1. Existing Baseline
2. Existing Baseline + Project
3. Opening Year Baseline (1% Growth per year from Existing to Opening Year)
4. Opening Year Baseline + Project
5. Horizon Year Baseline
6. Horizon Year Baseline + Project



## SCOPE FOR TRAFFIC STUDY

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### 8. Other:

Because traffic counts can not be conducted due to the statewide stay-at-home order, traffic counts from other traffic studies in the area are proposed to be used. As shown below, more than one set of traffic counts are available at 8 of the 12 proposed off-site intersections. The available traffic counts will be evaluated to determine consistency of the counts and to identify a growth rate in the area. Existing count data will be escalated accordingly to account for 2020 conditions. Existing traffic volumes at Maple Avenue/Jurupa Avenue and Linden Avenue/Jurupa Avenue will be estimated based on the count data at adjacent intersections. This scope proposes a growth rate of 1 percent per year to escalate counts to existing and project opening year conditions, however if the count data analysis warrants a higher rate, then that would be disclosed and discussed with County staff.

**Available Count Data in Bloomington Area**

	Slover and Cactus Warehouse	Goodman Industrial Park, Fontana	Bloomington Business Center	West Valley Logistics Center	Bloomington Industrial Facility	Arco Station, Cedar/Slover <sup>1</sup>	Cedar Avenue Technology Center	Bloomington High-Cube Warehouse	Market Street Commercial
Study Date	May-19	Jun-19	Apr-17	Aug-19	Aug-16	Apr-17	Jul-17	Jul-16	Jun-15
Count Date	3/18, 4/18 & 5/19	Mar-19	Jan-17	Dec-16	Apr-16	2015	Sep-16	Dec-14	May-15
1 Sierra Ave/I-10 Ramps			X	X					
2 Sierra Ave/Slover Ave		X	X	X					
3 Sierra Ave/Technology St									
4 Sierra Ave/Santa Ana Ave		X		X					
5 Laurel Ave/Santa Ana Ave									
6 Locust Ave/Santa Ana Ave				X					
7 Locust Ave/Jurupa Ave				X					
8 Maple Ave/Santa Ana Ave									
9 Maple Ave/Jurupa Ave									
10 Linden Ave/Jurupa Ave					X				
11 Locust Ave/Jurupa Ave				X					
12 Cedar Ave/I-10 WB Ramps	X		X	X	X		X	X	
13 Cedar Ave/I-10 EB Ramps	X		X	X	X		X	X	
14 Cedar Ave/Orange Street	X		X	X		X	X	X	
15 Cedar Ave/Slover Ave	X		X	X	X	X	X	X	
16 Cedar Ave/Santa Ana Ave				X	X				
17 Cedar Ave/Jurupa Ave				X	X				
18 Cedar Ave/11th St				X					
19 Cedar Ave/7th St				X					
20 Cedar Ave/El Rivino Dr				X					
21 Rubidoux Blvd/Market St				X					X
22 Agua Mansa Rd/Market St				X					X
23 Market St/24th St									X
24 Market St/Rivera St				X					X
25 Market St/SR-60 WB Ramp				X					X
26 Market St/SR-60 EB Ramp				X					X
27 Laurel Ave/Driveway 1									
28 Laurel Ave/Driveway 2									
29 Locust Ave/Driveway 3									
30 Locust Ave/Driveway 4									
31 Locust Ave/Driveway 5									
32 Locust Ave/Driveway 6									
33 Jurupa Ave/Driveway 7									
34 Maple Ave/Driveway 8									
35 Maple Ave/Driveway 9									
36 Maple Ave/Driveway 10									
37 Linden Ave/Driveway 11									
38 Linden Ave/Driveway 12									

<sup>1</sup> Arco volumes from I-10 Cedar Avenue Interchange Supplemental Traffic Operations Report (May 11, 2016). Counts Collected in 2015



## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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Traffic counts may be conducted immediately per the following:
<ul style="list-style-type: none"><li>• Must be taken on Tuesdays, Wednesdays or Thursdays.</li></ul>
<ul style="list-style-type: none"><li>• Counts in “tourist” and/or along travel corridors shall have counts on Fridays and Sundays.</li></ul>
<ul style="list-style-type: none"><li>• Must exclude holidays, and the first weekdays before and after the holiday.</li></ul>
<ul style="list-style-type: none"><li>• Must be taken on days when local schools or colleges are in session.</li></ul>
<ul style="list-style-type: none"><li>• Must be taken on days of good weather, and avoid atypical conditions (e.g., road construction, detours, or major traffic incidents).</li></ul>
<ul style="list-style-type: none"><li>• Traffic counts used for other traffic studies in the area shall <b>NOT</b> be reused again, unless 25% of the counts conducted for that particular traffic study are validated with new counts. The difference in volumes between the old and new counts at each corresponding movement should not be more than 10%.</li></ul>
<ul style="list-style-type: none"><li>• New traffic counts shall be checked to ensure the difference in volumes at corresponding approaches, if applicable, between two adjacent intersections is no more than 10% unless the difference can be justified.</li></ul>
<ul style="list-style-type: none"><li>• For all proposed mitigation measures, a conceptual plan for the improvements shall be submitted to our Traffic Studies section for review and approval prior to the approval of the Traffic Impact Analysis. All proposed improvements shall be within the right-of-way.</li></ul>
<ul style="list-style-type: none"><li>• For all cumulative mitigation measures, a cost estimate for the improvement shall be submitted.</li></ul>

This analysis must follow the most current Traffic Impact Study Guidelines for the County as stated in the County’s Road Planning and Design Standards.

### 9. Fees

The County charges on an actual cost basis for review of traffic studies. An initial deposit of \$2000 is required at the time that the Traffic Impact study is a land use application is filed with the Department of Land Use Services. If the review costs exceed the initial deposit, the applicant will be expected to provide additional funds and the review will be suspended until the additional funds are deposited.



## SCOPE FOR TRAFFIC STUDY

<b>Project Name:</b>	Bloomington Business Park
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### 10. Contact Information:

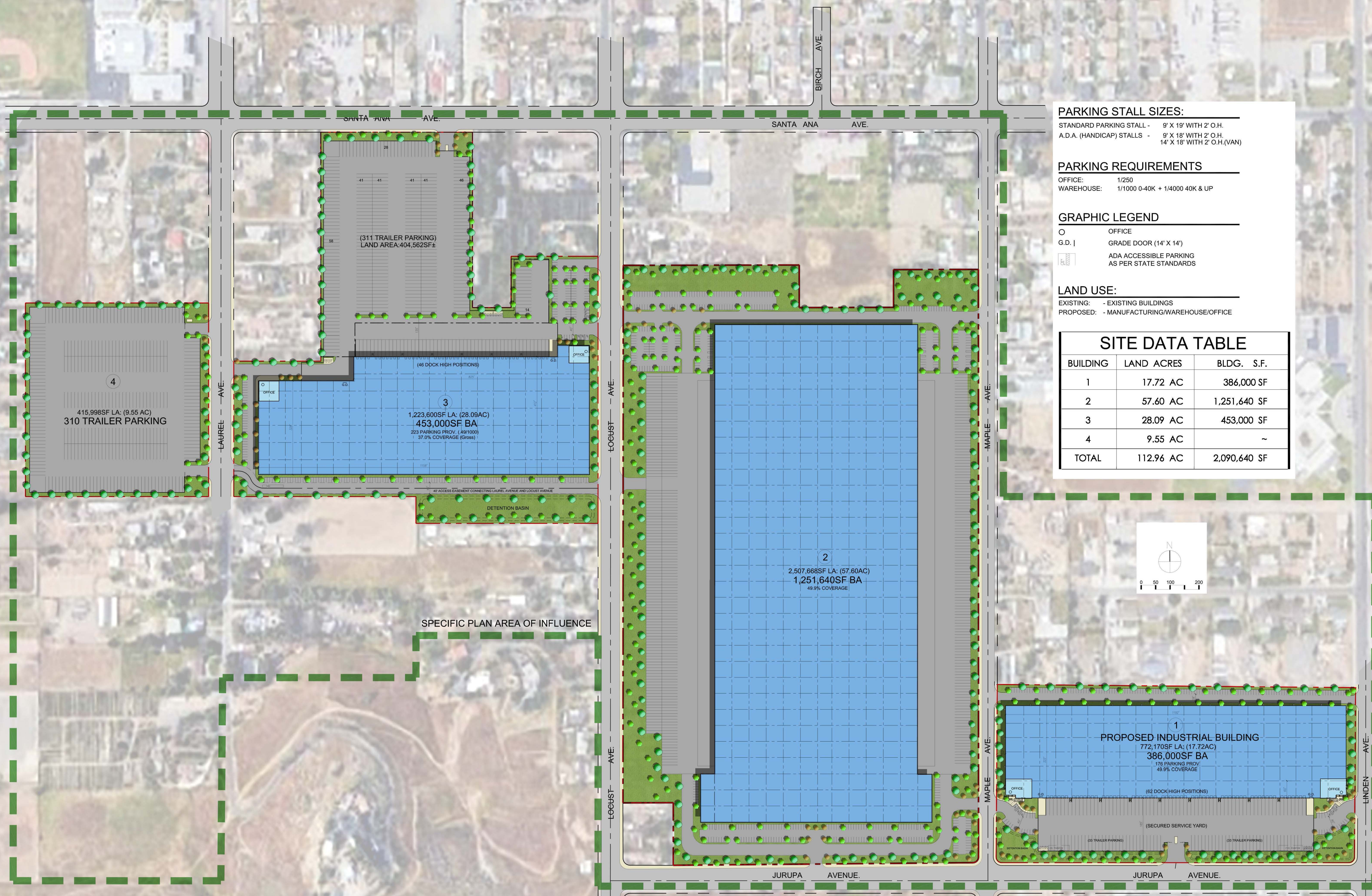
*Please submit a final copy of this scope to the Traffic Division. Draft scopes may be sent electronically or by physical mail to the contact information below.*

County of San Bernardino  
Dept. of Public Works, Traffic Division  
825 E. 3<sup>rd</sup> Street, Rm 115  
San Bernardino, CA 92415-0835

Phone: 909-387-8186

Fax: 909-387-7809

Email: [Anthony.Pham@dpw.sbcounty.gov](mailto:Anthony.Pham@dpw.sbcounty.gov)



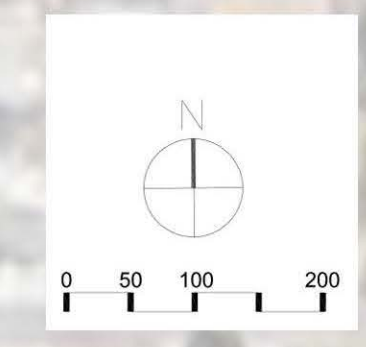
**PARKING STALL SIZES:**  
 STANDARD PARKING STALL - 9' X 19' WITH 2' O.H.  
 A.D.A. (HANDICAP) STALLS - 9' X 18' WITH 2' O.H.  
 14' X 18' WITH 2' O.H.(VAN)

**PARKING REQUIREMENTS**  
 OFFICE: 1/250  
 WAREHOUSE: 1/1000 0-40K + 1/4000 40K & UP

**GRAPHIC LEGEND**  
 O OFFICE  
 G.D. | GRADE DOOR (14' X 14')  
 ADA ACCESSIBLE PARKING AS PER STATE STANDARDS

**LAND USE:**  
 EXISTING: - EXISTING BUILDINGS  
 PROPOSED: - MANUFACTURING/WAREHOUSE/OFFICE

SITE DATA TABLE		
BUILDING	LAND ACRES	BLDG. S.F.
1	17.72 AC	386,000 SF
2	57.60 AC	1,251,640 SF
3	28.09 AC	453,000 SF
4	9.55 AC	~
TOTAL	112.96 AC	2,090,640 SF



SPECIFIC PLAN AREA OF INFLUENCE

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**DISCLAIMER:**  
 ALL INFORMATION CONTAINED HEREIN MAY BE SUBJECT TO CHANGE PENDING OWNER AND OR AGENCY REVIEW AND IS FOR INFORMATION ONLY

**Table 1. Bloomington Industrial Master Plan PCE Trip Generation**

Land Use	Units	AM Peak Hour				PM Peak Hour			
		Daily	In	Out	Total	In	Out	Total	
<u>Trip Rates</u>									
High Cube Transload and Short-Term Storage Warehouse <sup>1</sup>	TSF	1.400	0.062	0.018	0.080	0.028	0.072	0.100	
Fulfillment Center <sup>2</sup>		2.129	0.099	0.023	0.122	0.064	0.101	0.165	
Cars	TSF	1.750	0.083	0.020	0.103	0.056	0.088	0.144	
2-4 Axle	TSF	0.162	0.006	0.002	0.008	0.004	0.007	0.011	
5 Axle	TSF	0.217	0.009	0.002	0.011	0.004	0.006	0.010	
Industrial Park <sup>3</sup>	TSF	3.370	0.324	0.076	0.400	0.084	0.316	0.400	
<u>Project Trip Gen</u>									
<b>Building #3 (High-Cube Warehouse)</b>	1251.64	TSF	1752	77	23	100	35	90	125
		<u>Vehicle Mix<sup>4</sup></u>							
		<u>Percent</u>							
Passenger Vehicles		79.57%	1394	61	18	80	28	72	100
2 Axle Trucks		3.46%	61	3	1	3	1	3	4
3 Axle Trucks		4.64%	81	4	1	5	2	4	6
4+ Axle Trucks		12.33%	216	10	3	12	4	11	15
		100%	1752	77	23	100	35	90	125
		<u>PCE Trip Generation<sup>5</sup></u>							
		<u>PCE Factor</u>							
Passenger Vehicles		1.0	1394	61	18	80	28	72	100
2 Axle Trucks		1.5	91	4	1	5	2	5	6
3 Axle Trucks		2.0	163	7	2	9	3	8	12
4+ Axle Trucks		3.0	648	29	9	37	13	33	46
Total PCE Trip Generation			2296	101	30	131	46	119	164
<b>Buildings 2 and 4 (Fulfillment Centers)</b>	839	TSF	1786	83	19	102	54	84	138
		<u>Vehicle Mix<sup>6</sup></u>							
		<u>Percent</u>							
Passenger Vehicles			1468	70	16	86	47	74	121
2 Axle Trucks			45	2	0	2	1	2	3
3 Axle Trucks			45	2	0	2	1	2	3
4+ Axle Trucks			227	9	2	11	4	7	11
			1786	83	19	102	54	84	138
		<u>PCE Trip Generation<sup>5</sup></u>							
		<u>PCE Factor</u>							
Passenger Vehicles		1.0	1468	70	16	86	47	74	121
2 Axle Trucks		1.5	68	3	1	3	2	3	5
3 Axle Trucks		2.0	91	4	1	4	2	4	6
4+ Axle Trucks		3.0	682	28	7	34	13	21	34
Total PCE Trip Generation			2309	105	24	129	65	102	166
<b>Future Development Area (Industrial Park)</b>	588.30	TSF	1983	191	45	235	49	186	235
		<u>Vehicle Mix<sup>7</sup></u>							
		<u>Percent</u>							
Passenger Vehicles		78.60%	1558	150	35	185	39	146	185
2 Axle Trucks		8.00%	159	15	4	19	4	15	19
3 Axle Trucks		3.90%	77	7	2	9	2	7	9
4+ Axle Trucks		9.50%	188	18	4	22	5	18	22
		100%	1983	191	45	235	49	186	235
		<u>PCE Trip Generation<sup>5</sup></u>							
		<u>PCE Factor</u>							
Passenger Vehicles		1.0	1558	150	35	185	39	146	185
2 Axle Trucks		1.5	238	23	5	28	6	22	28
3 Axle Trucks		2.0	155	15	3	18	4	15	18
4+ Axle Trucks		3.0	565	54	13	67	14	53	67
Total PCE Trip Generation			2516	242	57	299	63	236	299
<b>Total Project PCE Trip Generation</b>	<b>2678.94</b>		<b>7121</b>	<b>448</b>	<b>111</b>	<b>559</b>	<b>174</b>	<b>457</b>	<b>629</b>

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

<sup>1</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition, 2017*. Land Use Code 154 - High-Cube Transload and Short-Term Storage Warehouse.

<sup>2</sup> Trip rates from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2009. In/Out splits from the Institute of Transportation Engineers, *Trip Generation, 10th Edition, 2017*. Land Use Code 155 - High-Cube Fulfillment Center Warehouse.

<sup>3</sup> Trip rates from the Institute of Transportation Engineers, *Trip Generation, 10th Edition, 2017*. Land Use Code 130 - Industrial Park.

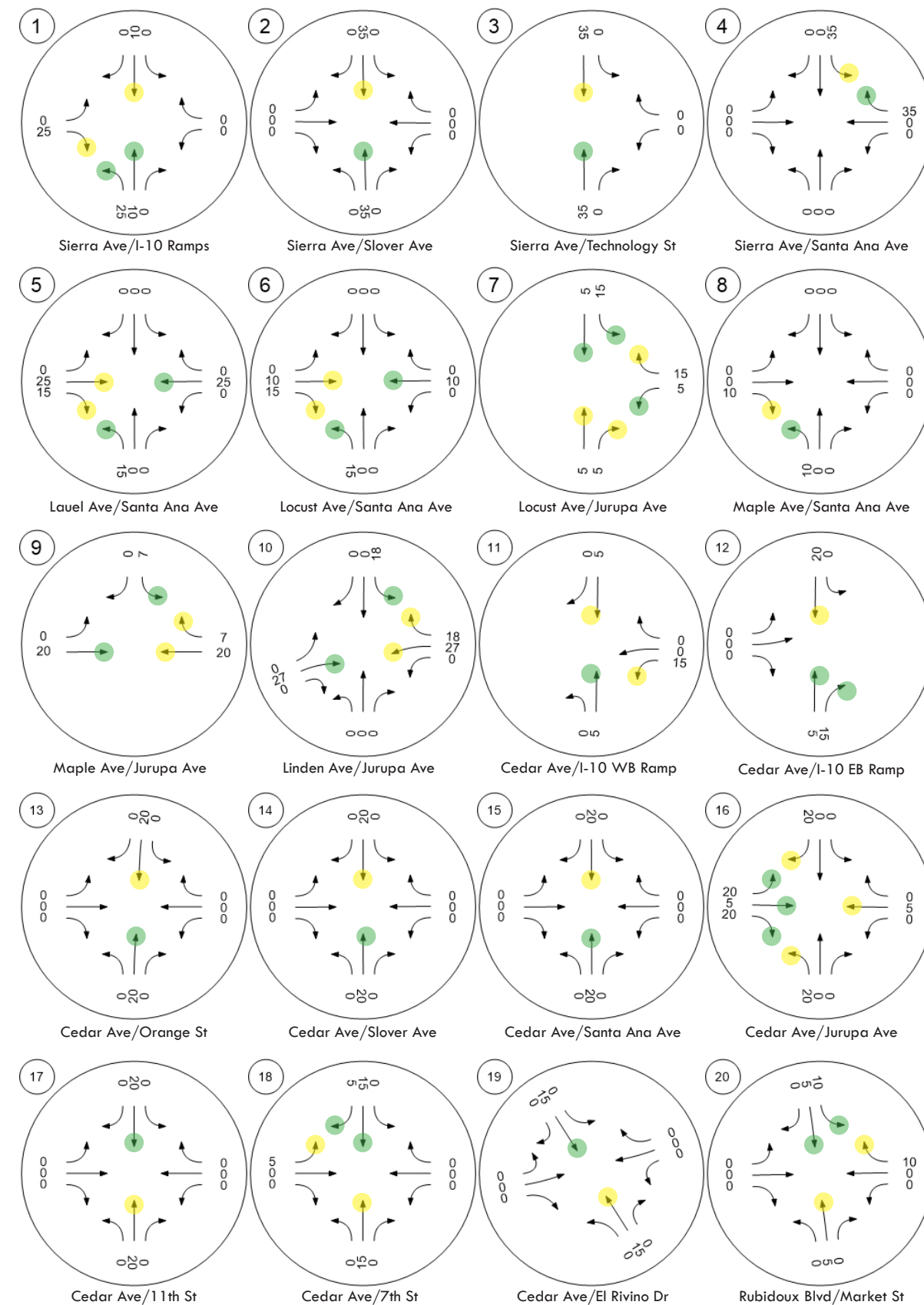
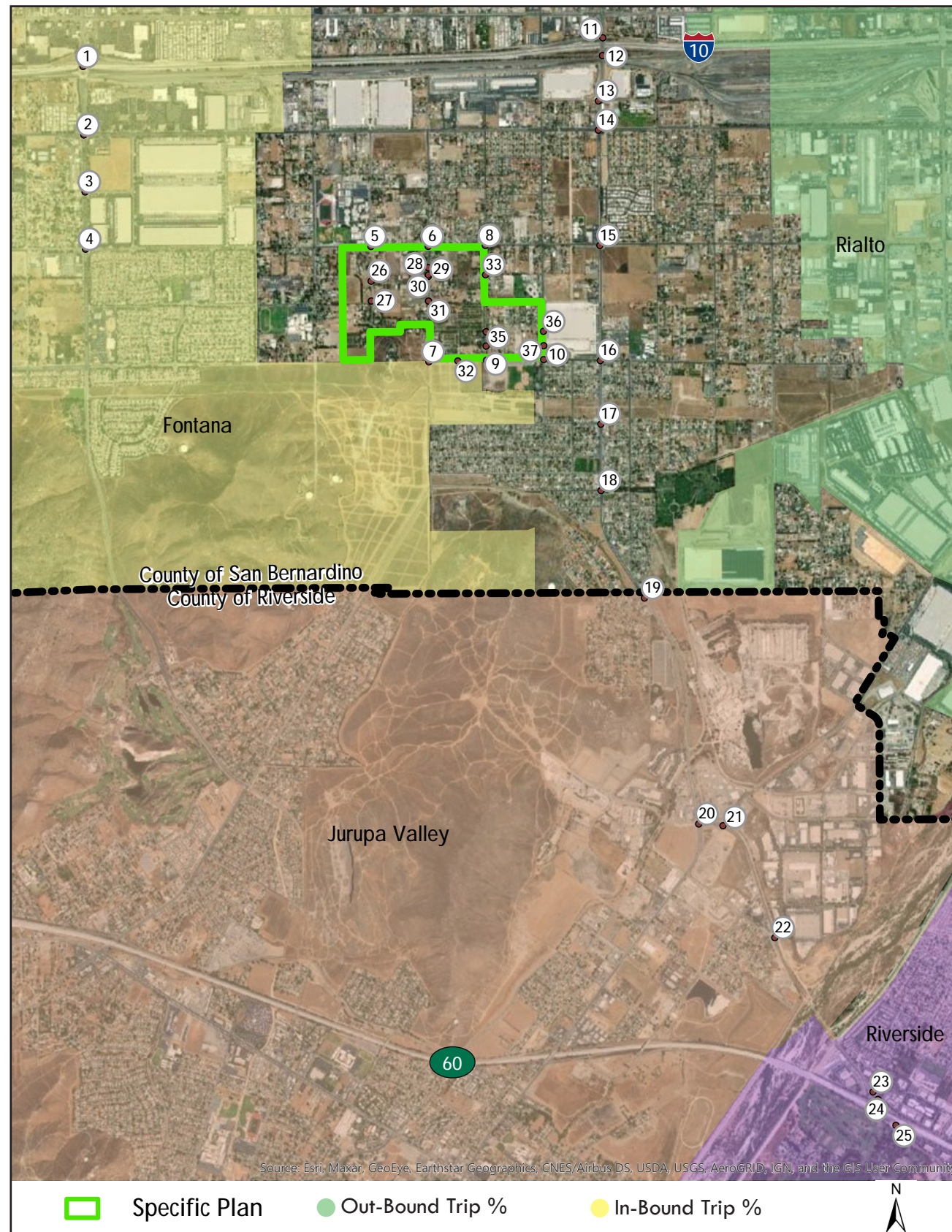
<sup>4</sup> Vehicle Mix from the City of Fontana, *Truck Trip Generation Study*, August 2003. Classification: Heavy Warehouse.

<sup>5</sup> Passenger Car Equivalent (PCE) factors from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

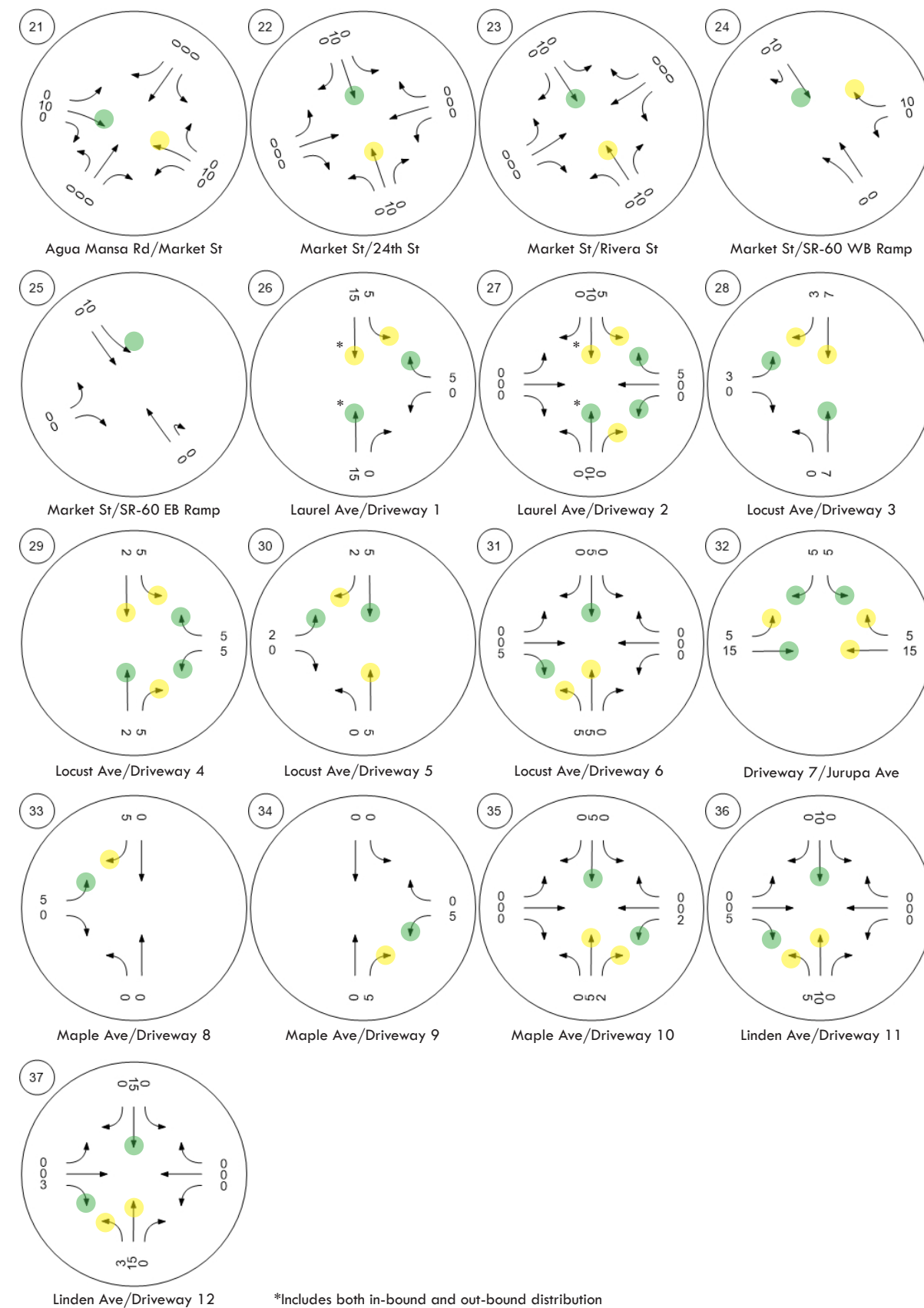
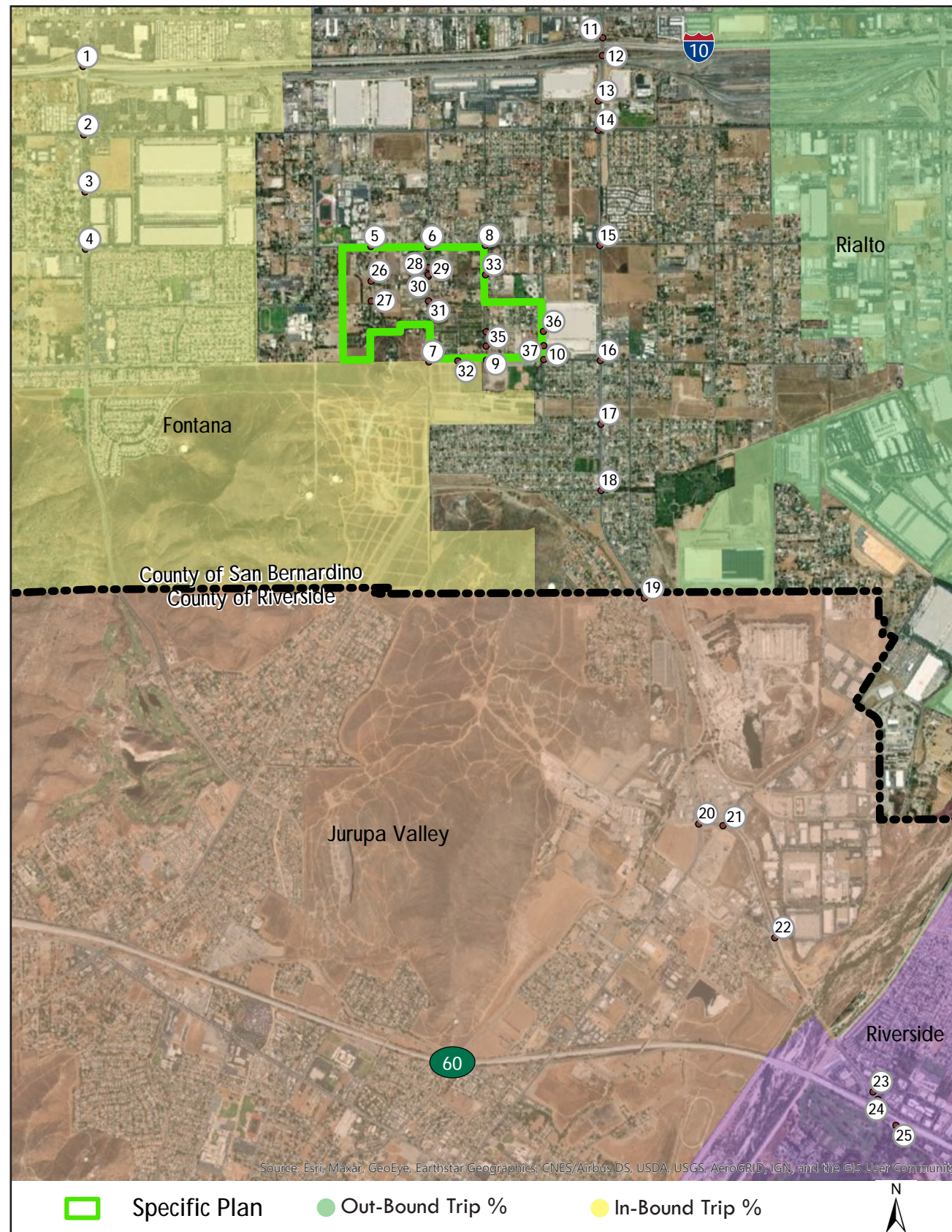
<sup>6</sup> Vehicle Mix from TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2009. 2-4 Axle trucks were separated out, assuming equal amount of each.

<sup>7</sup> Vehicle Mix from the City of Fontana, *Truck Trip Generation Study*, August 2003. Classification: Light Industrial.

Automobile Distribution (A)

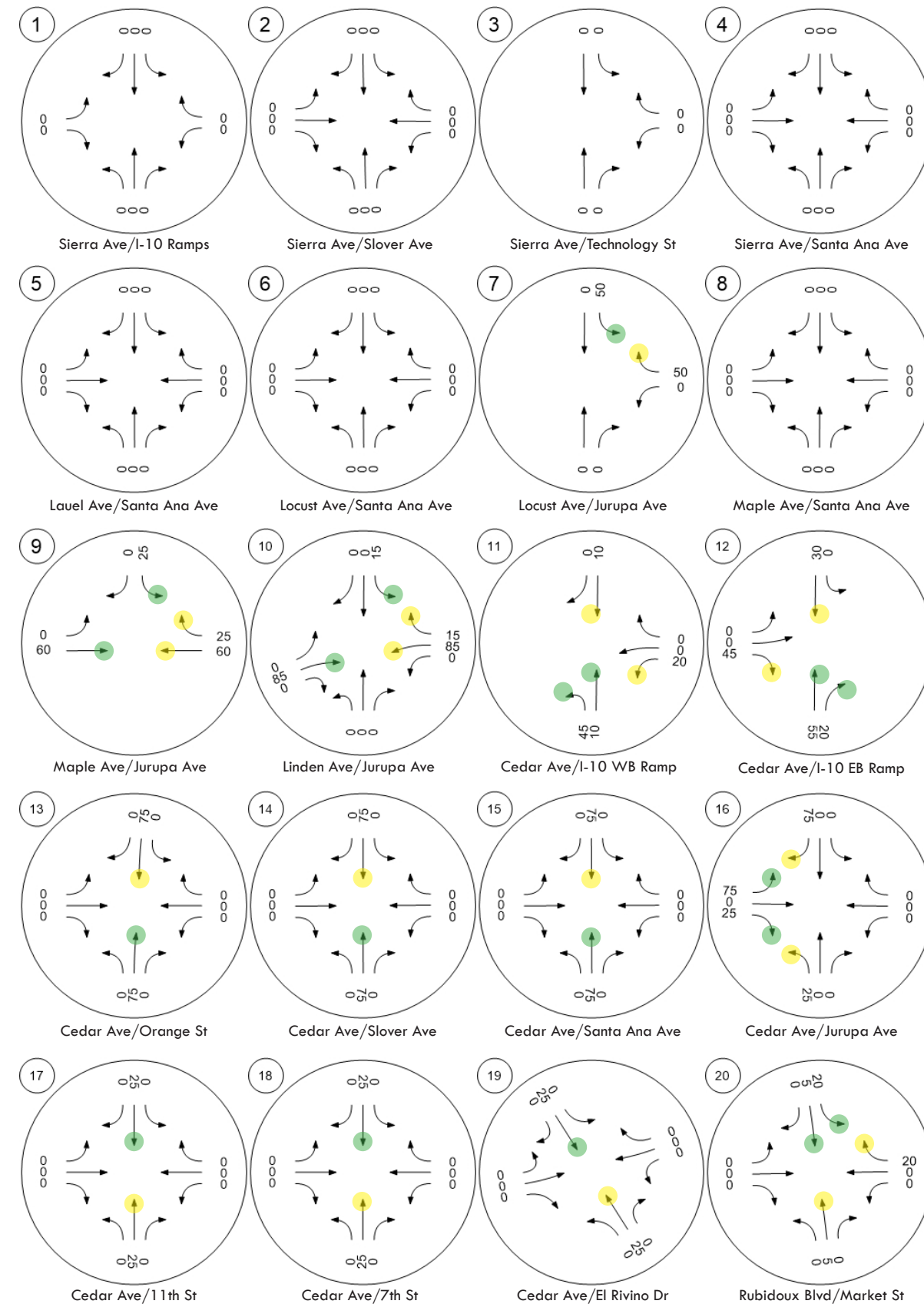
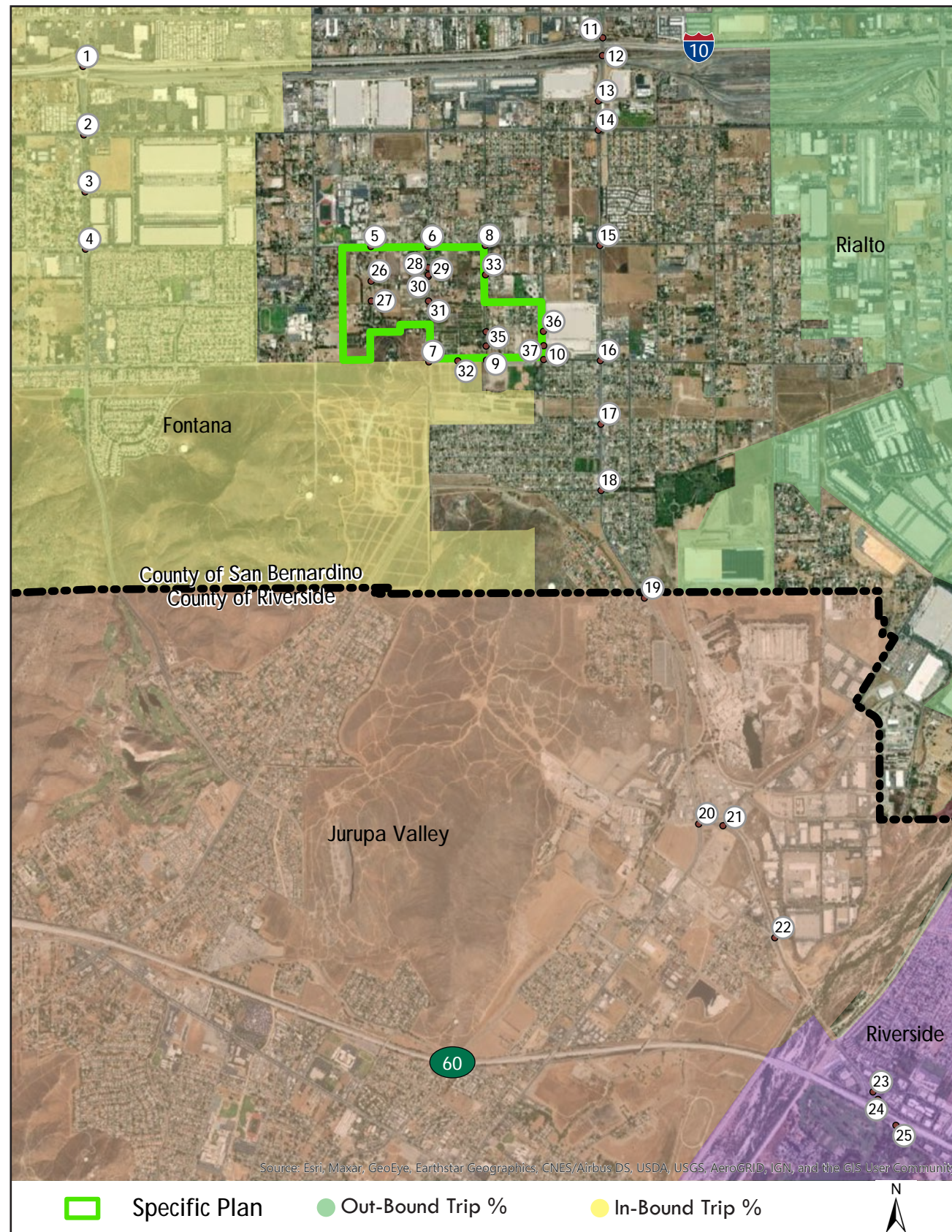


Automobile Distribution (B)

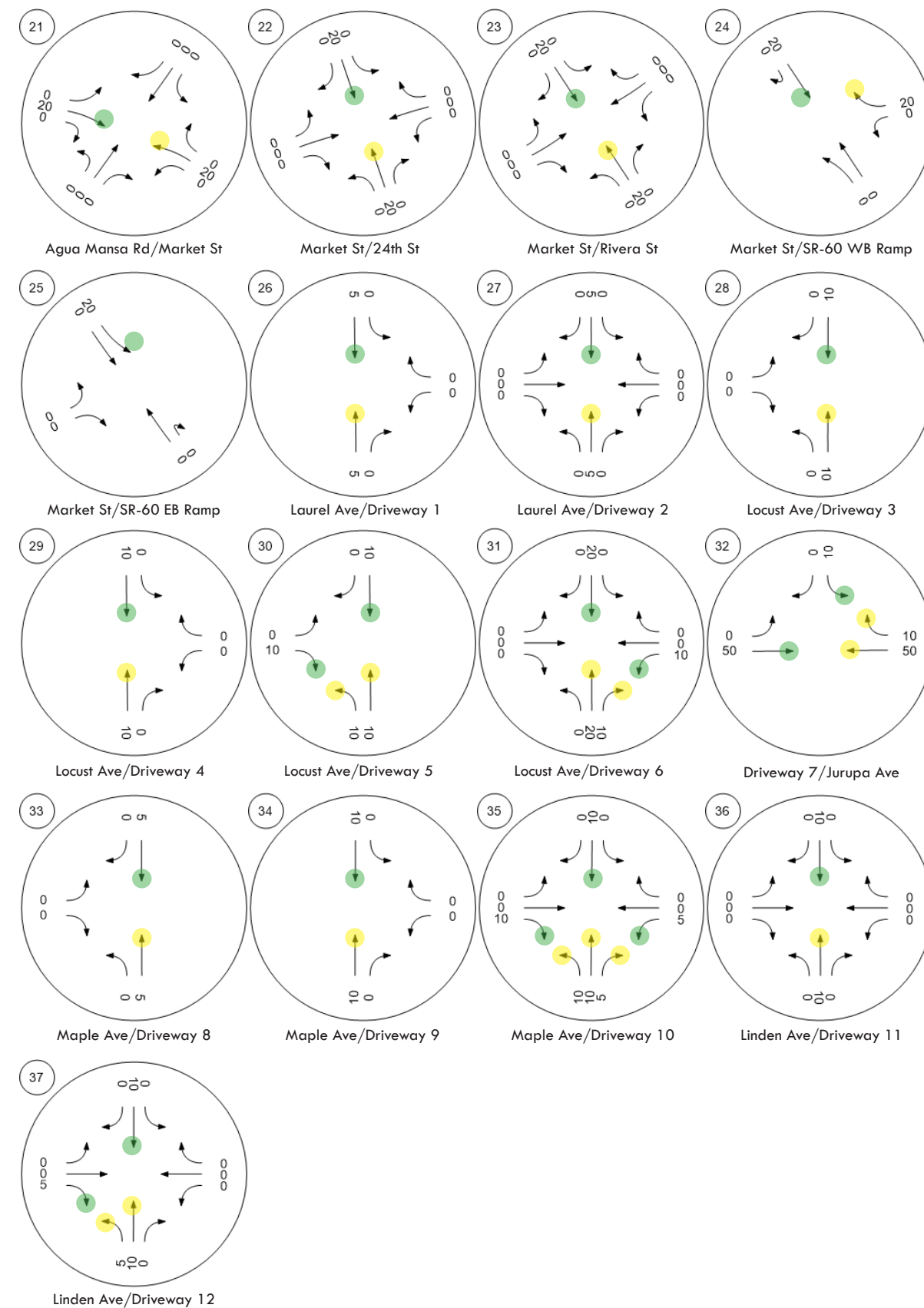
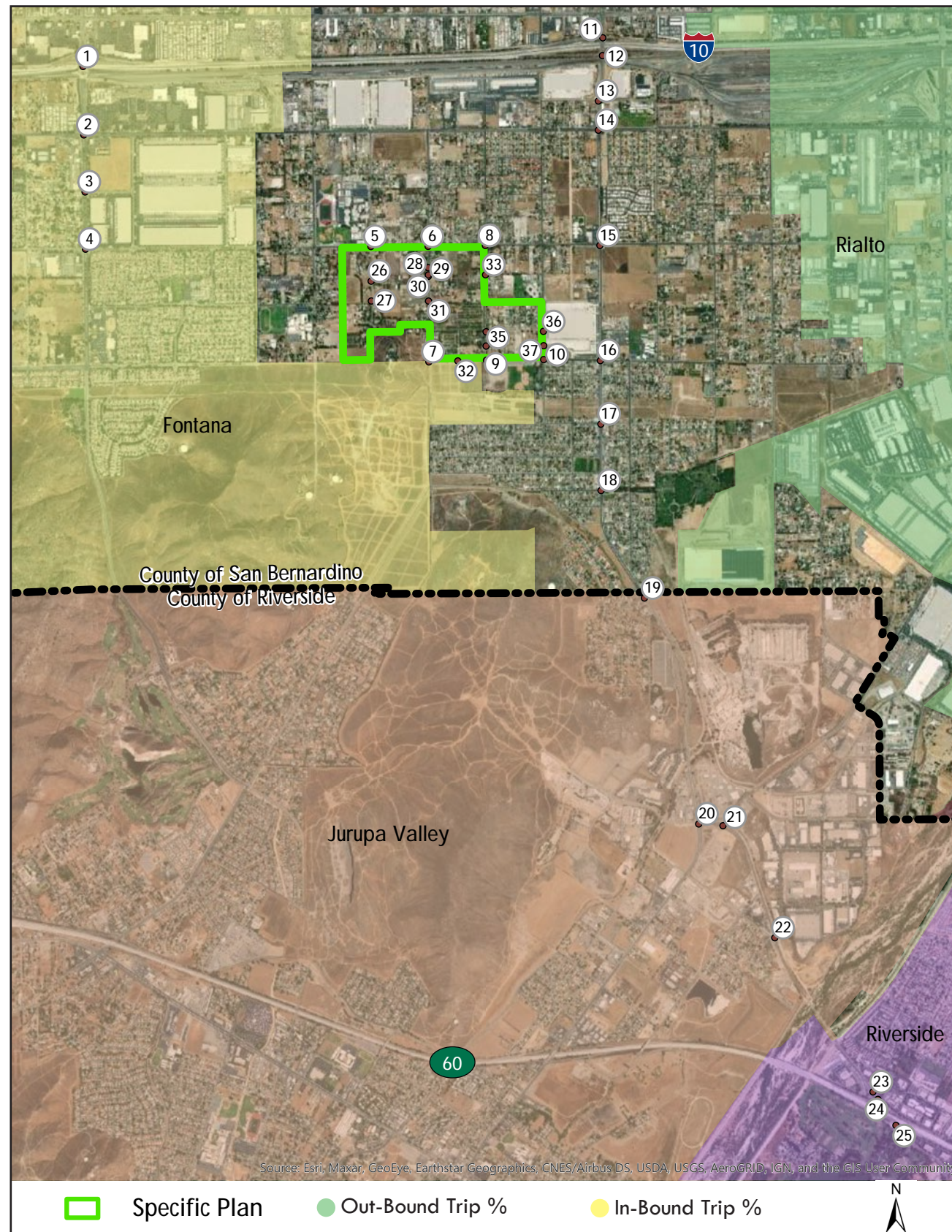




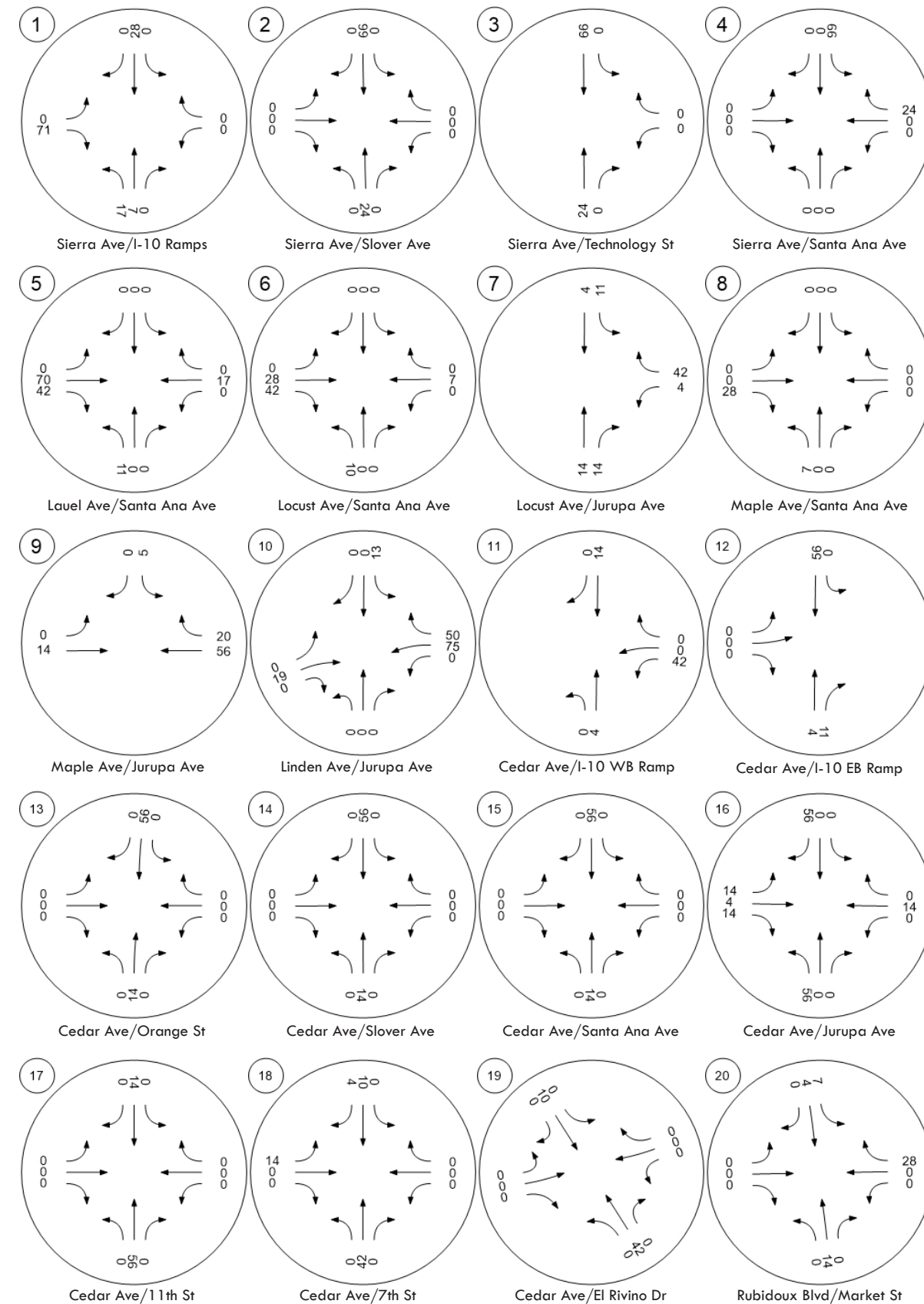
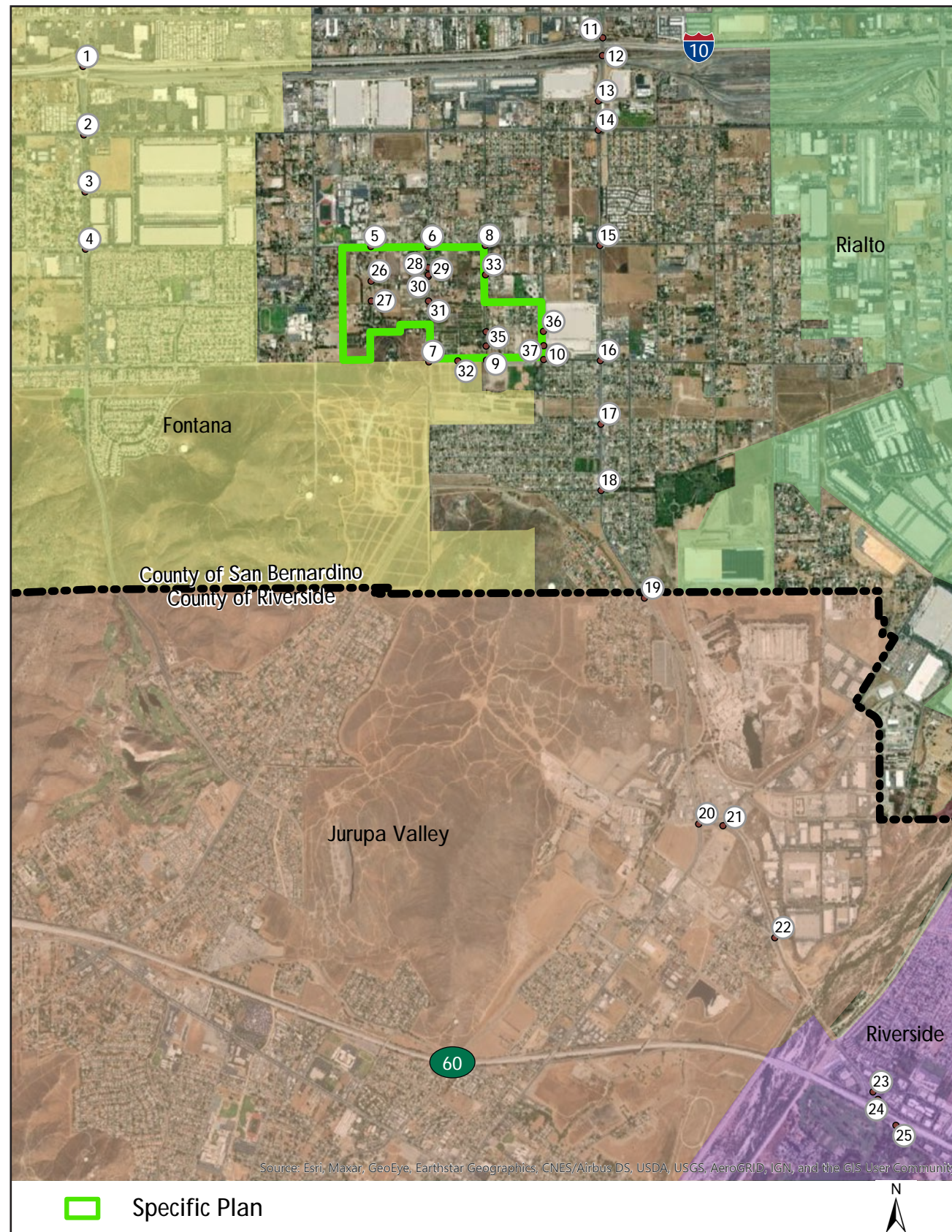
Truck Distribution (A)



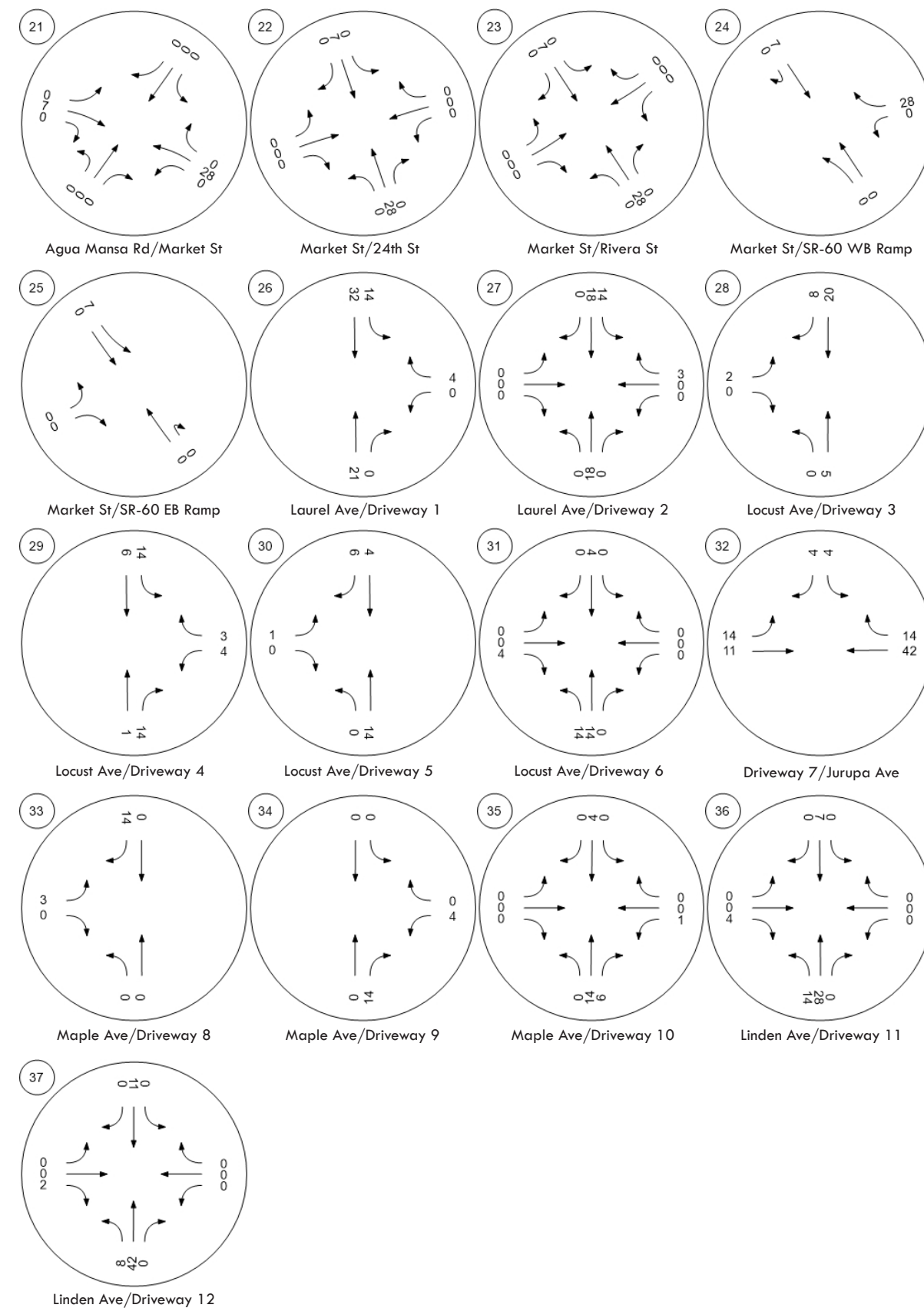
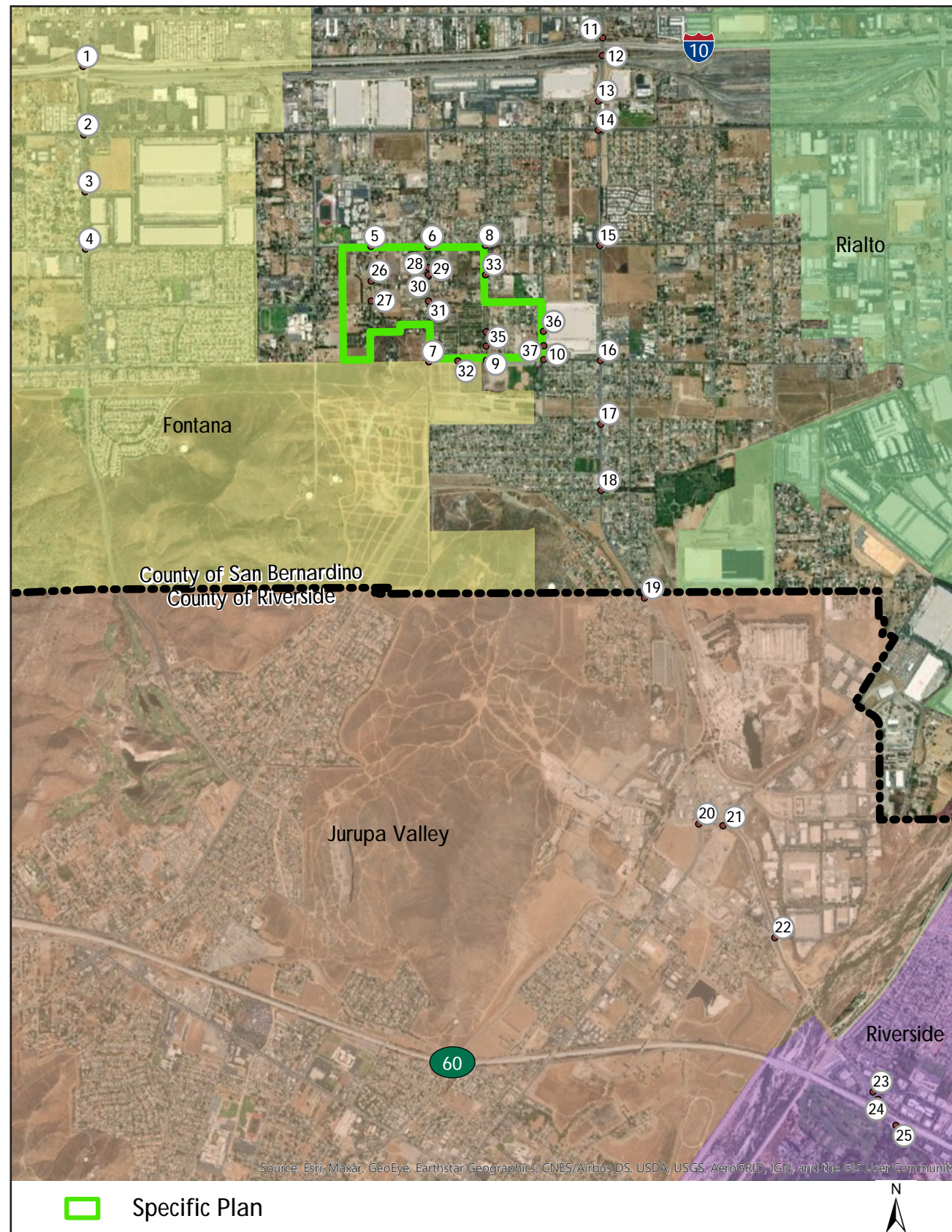
Truck Distribution (B)



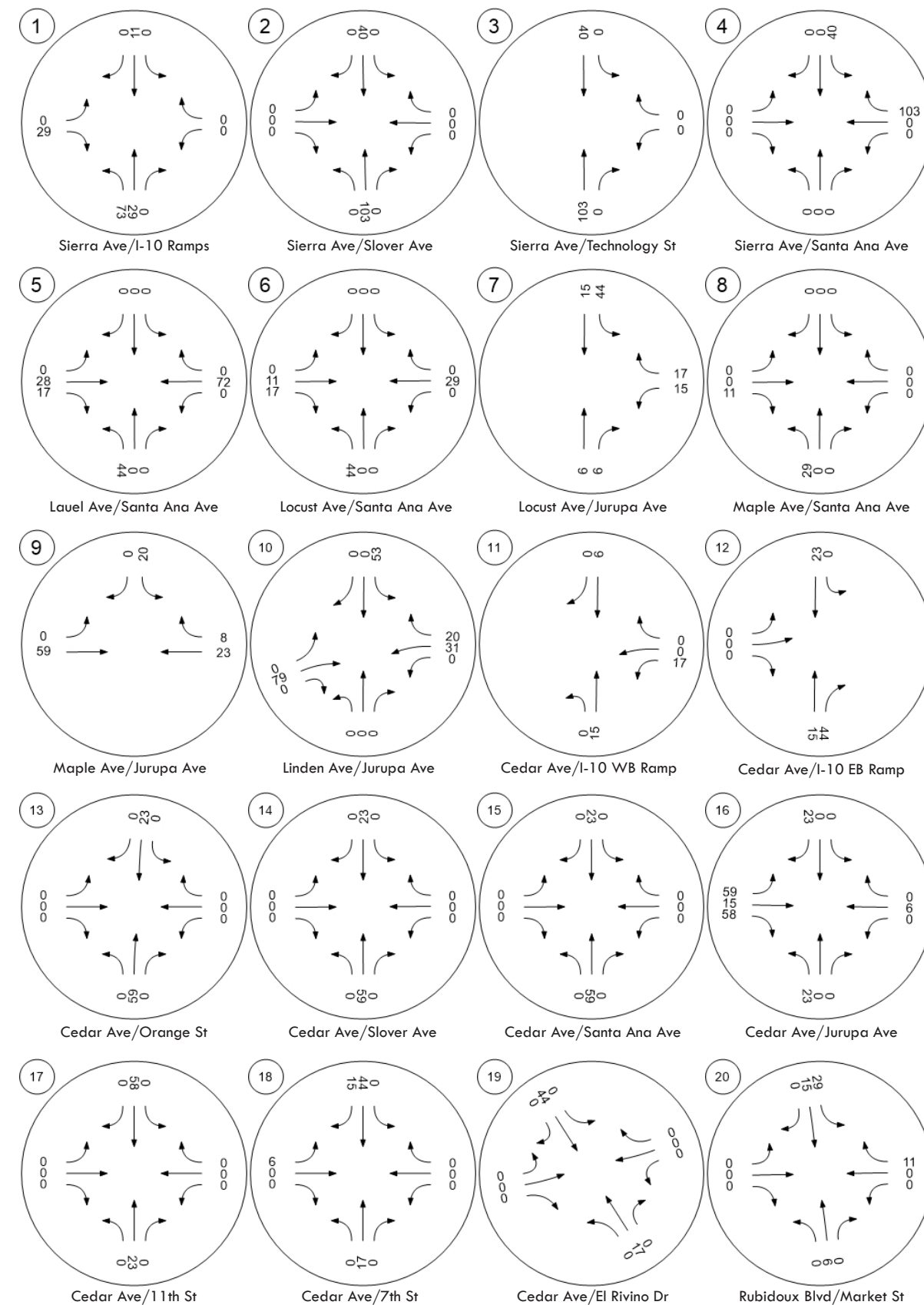
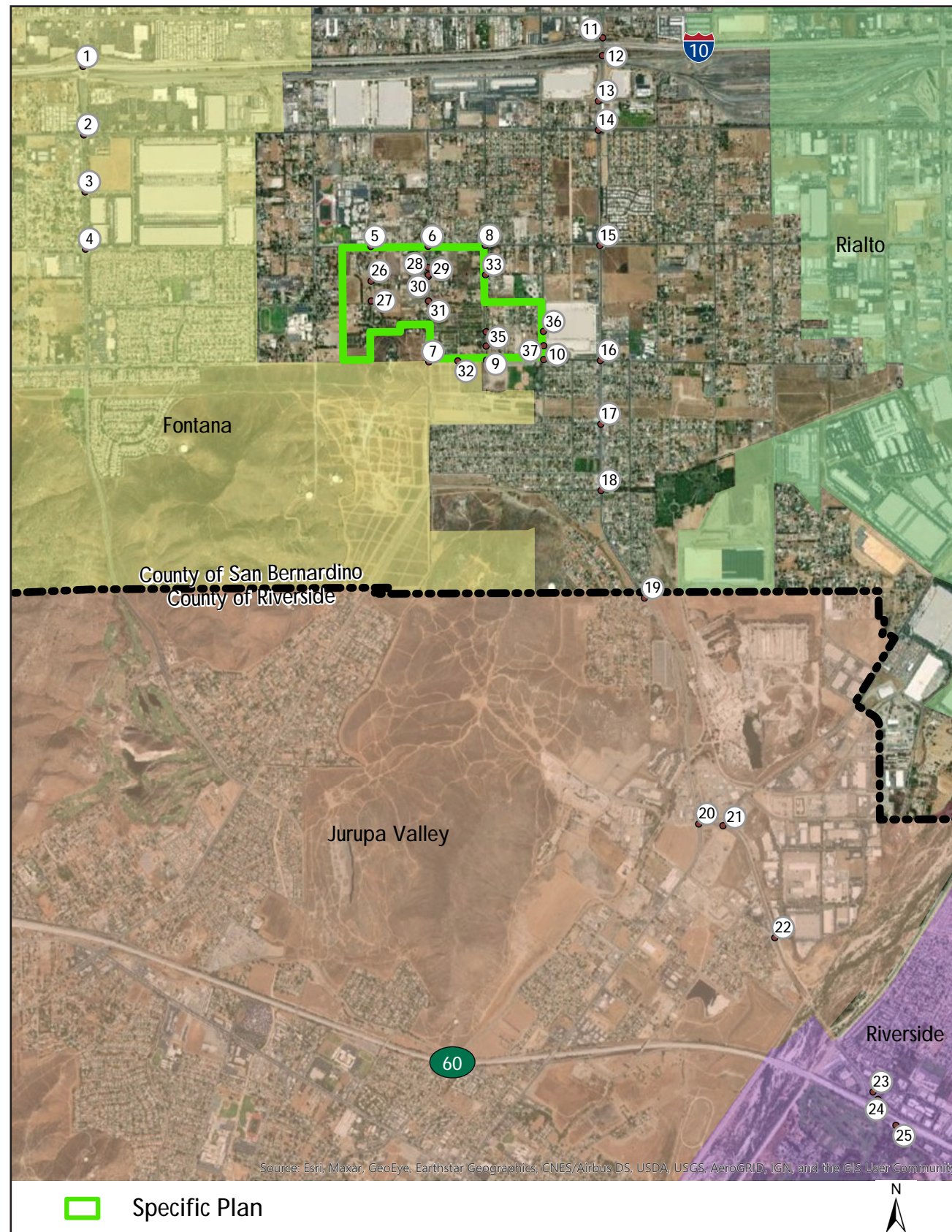
Automobile AM Assignment (A)



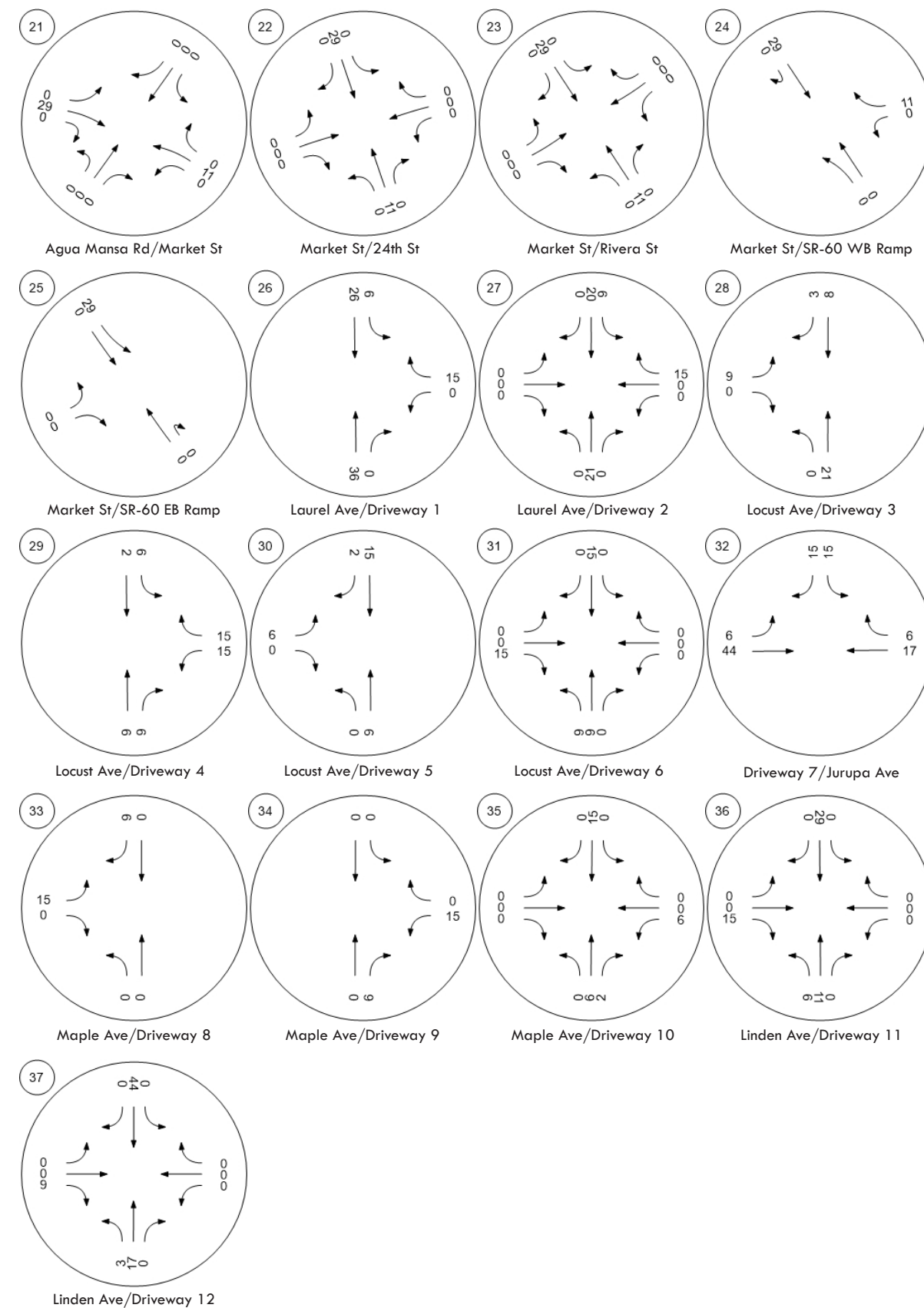
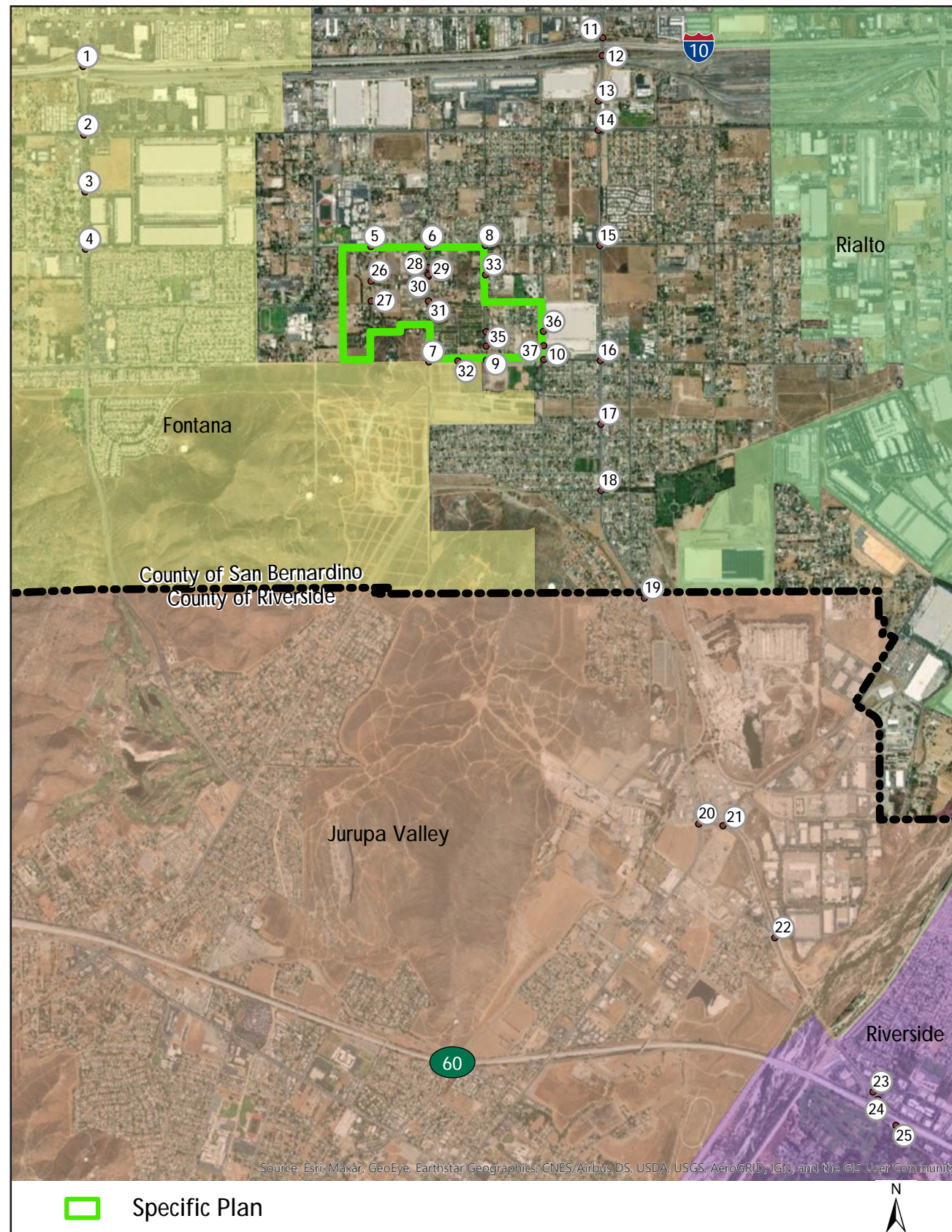
Automobile AM Assignment (B)



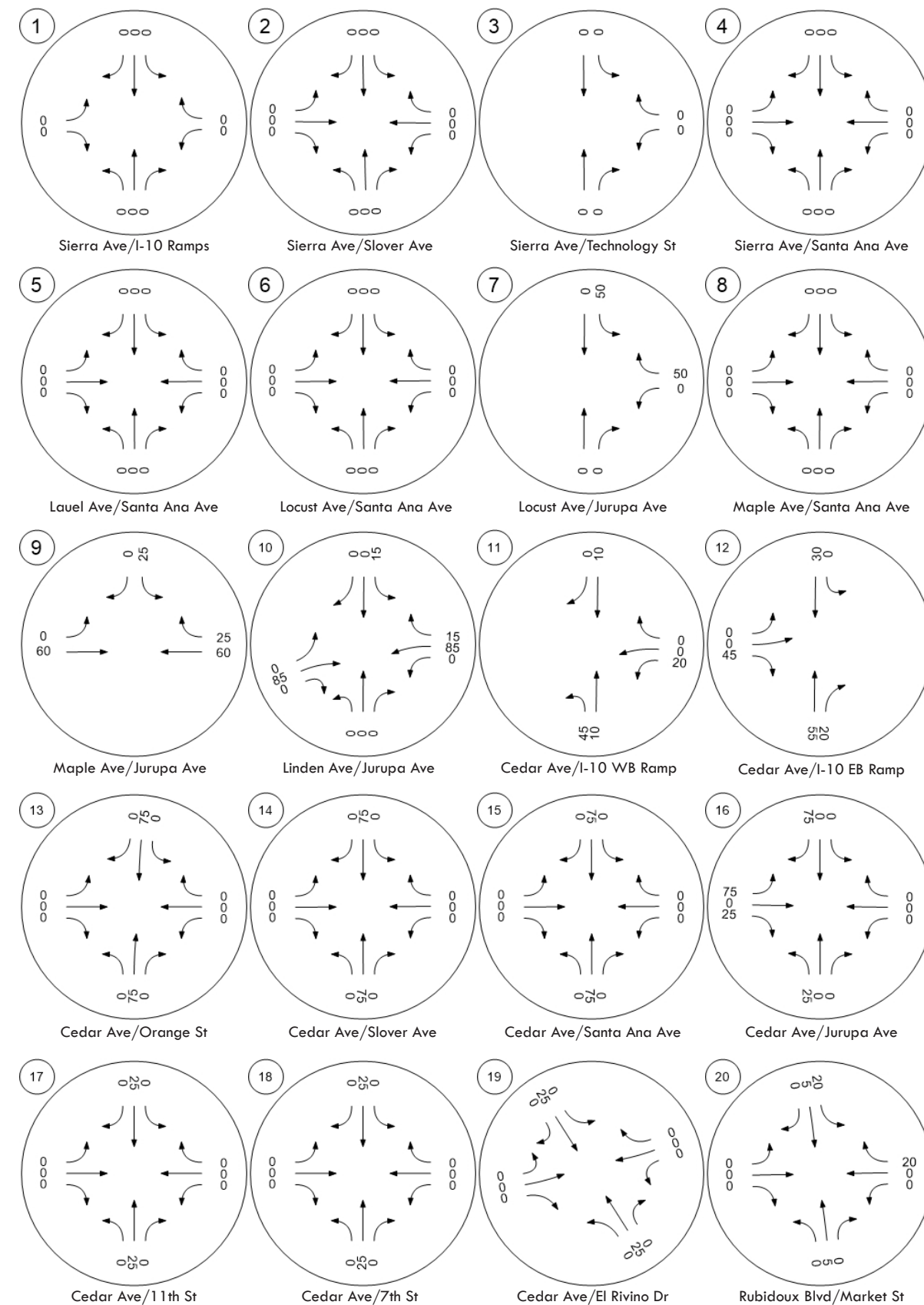
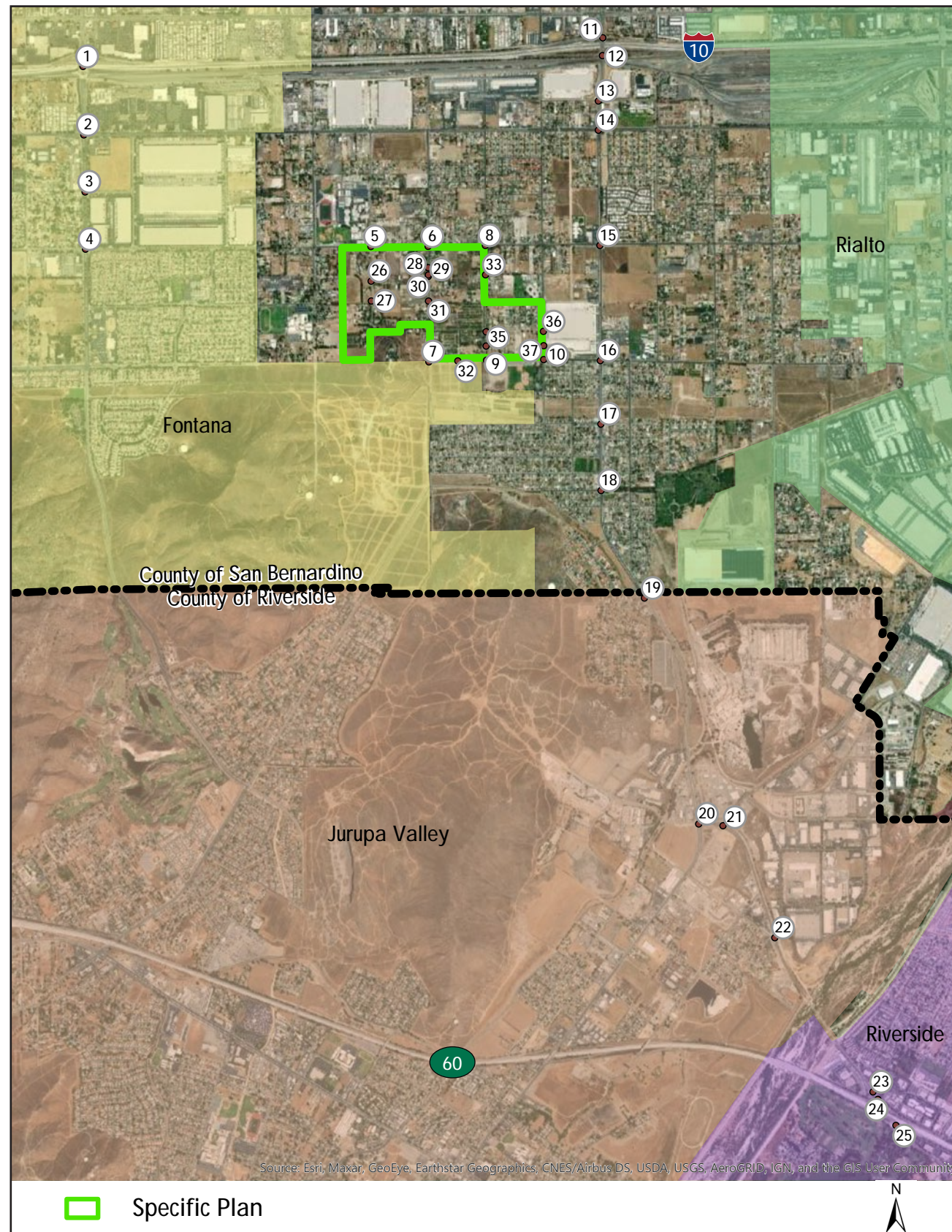
Automobile PM Assignment (A)



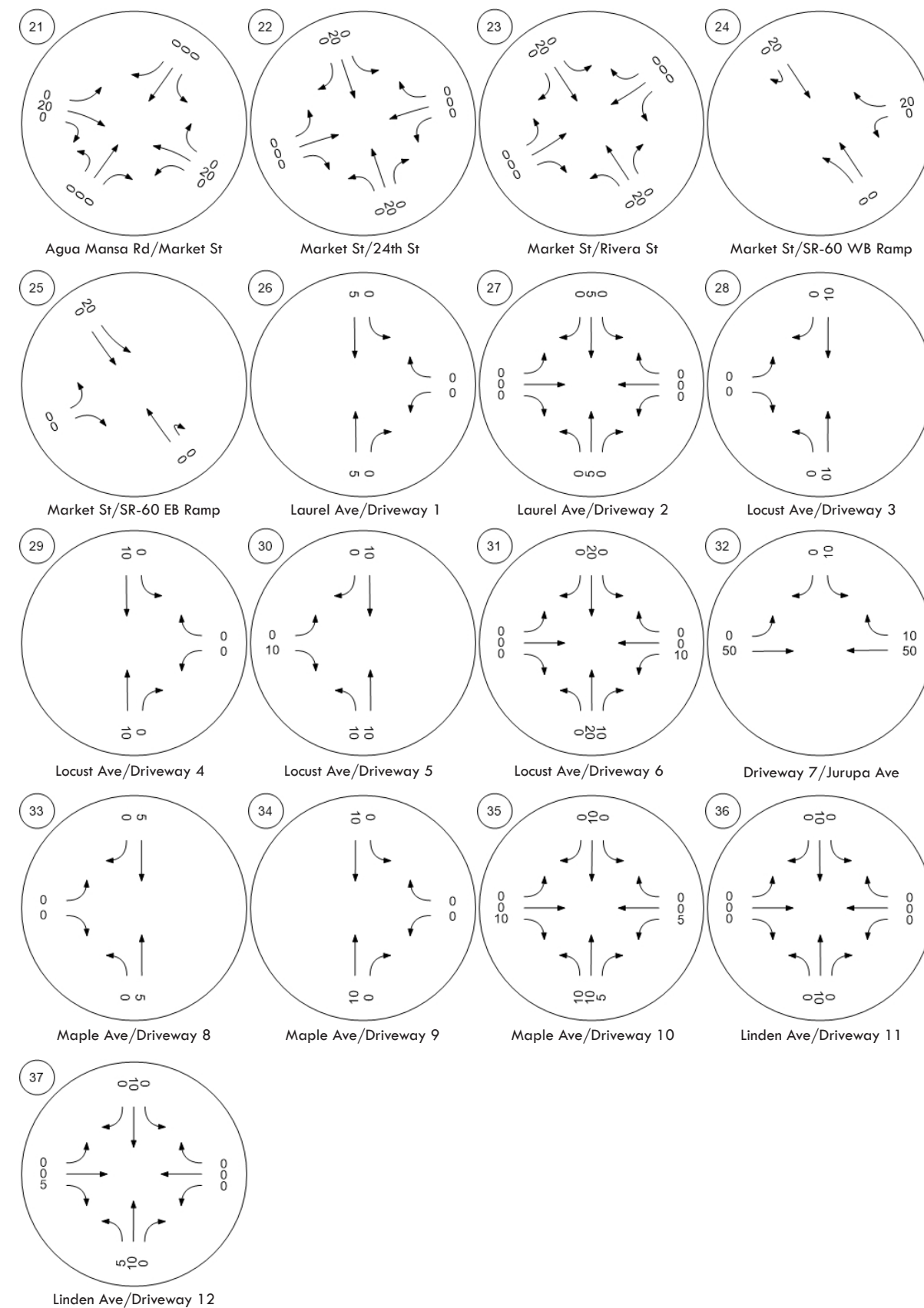
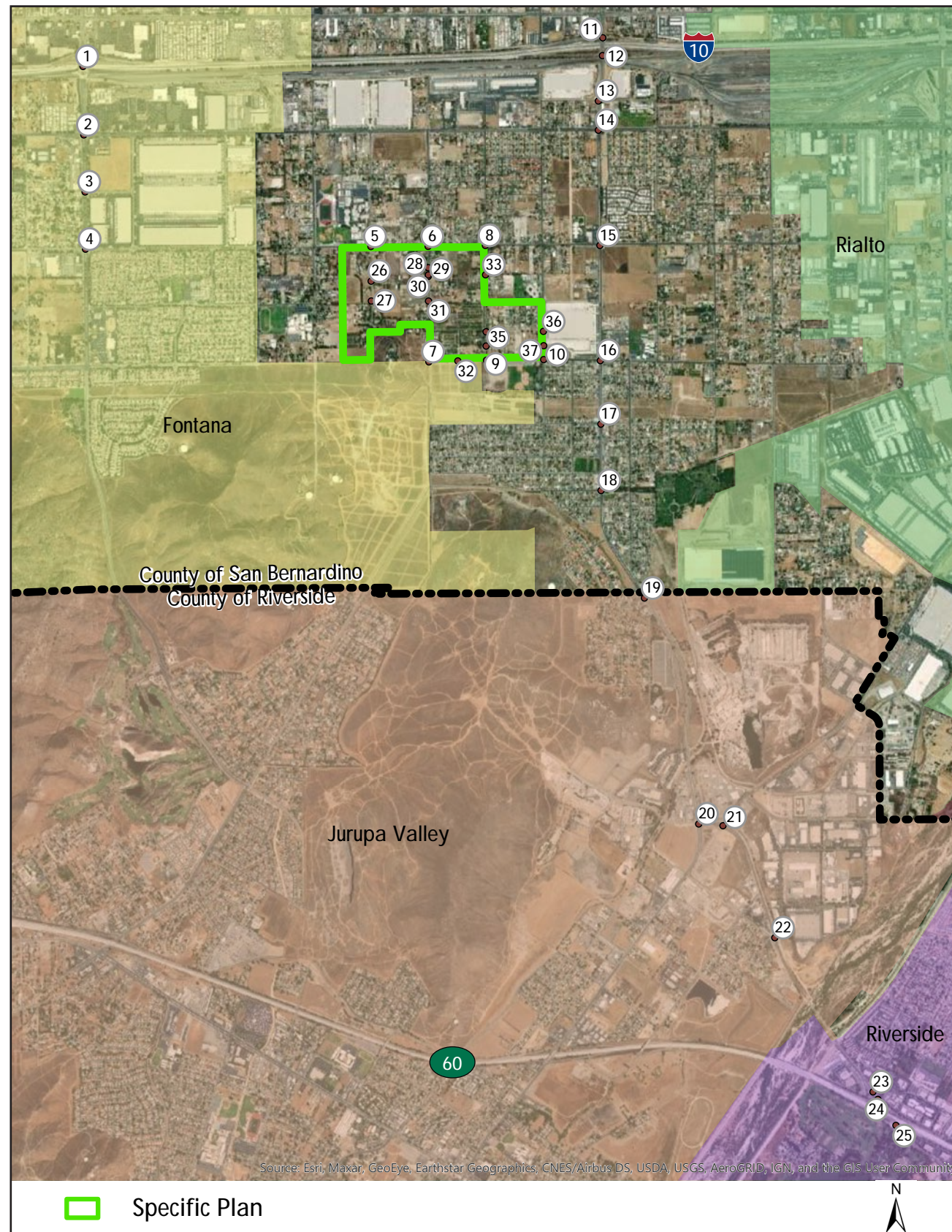
Automobile PM Assignment (B)



Truck AM Assignment (A)

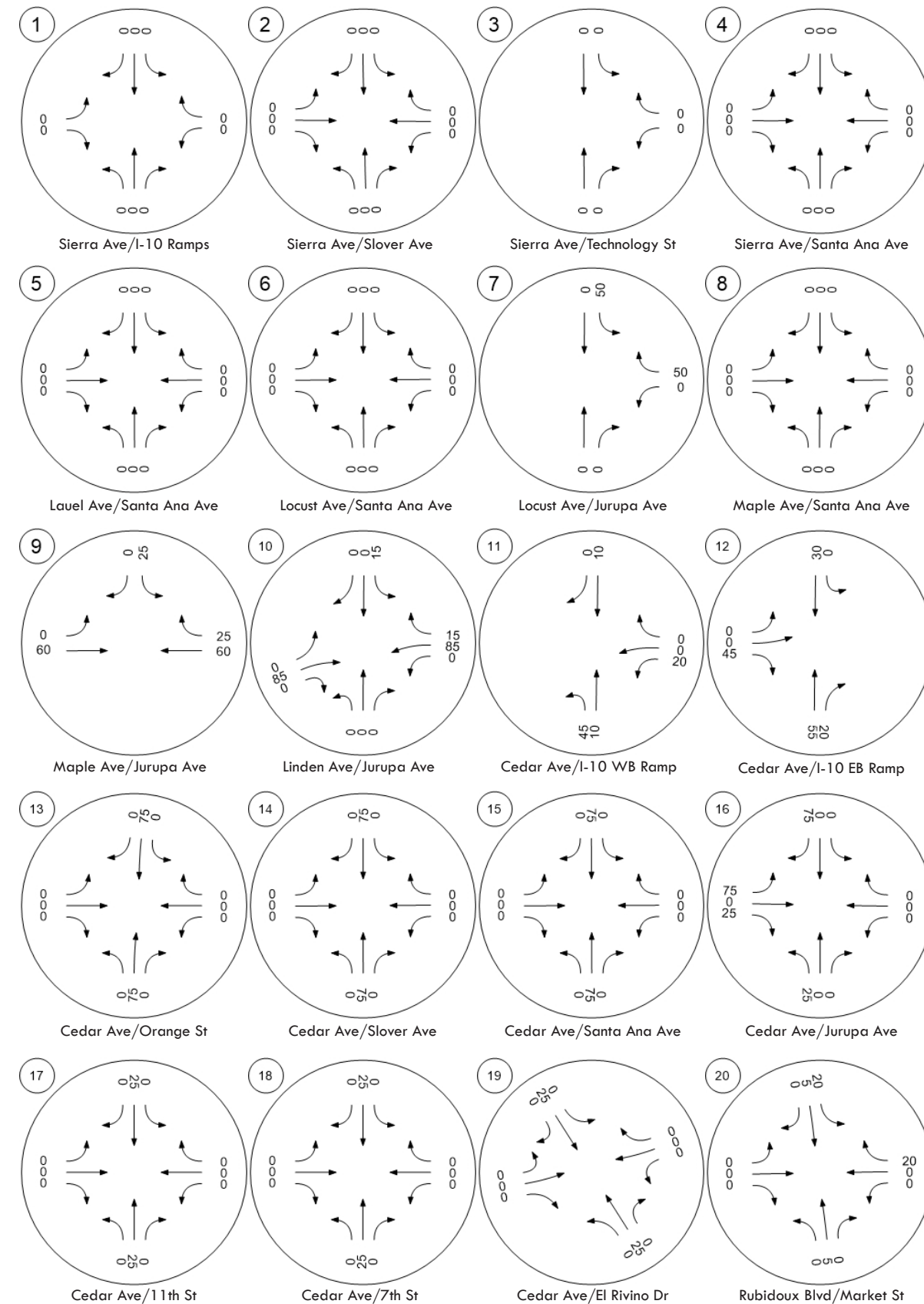
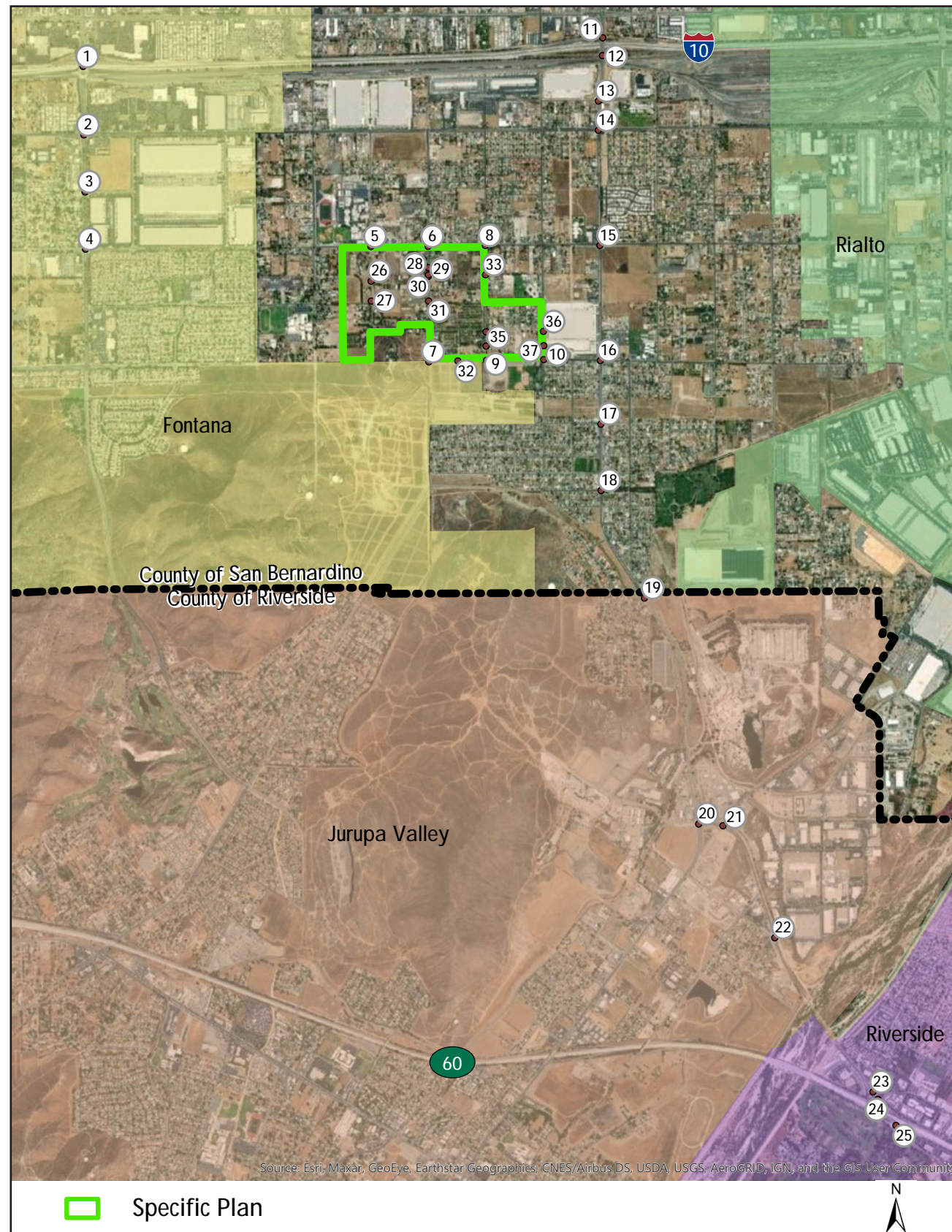


Truck AM Assignment (B)

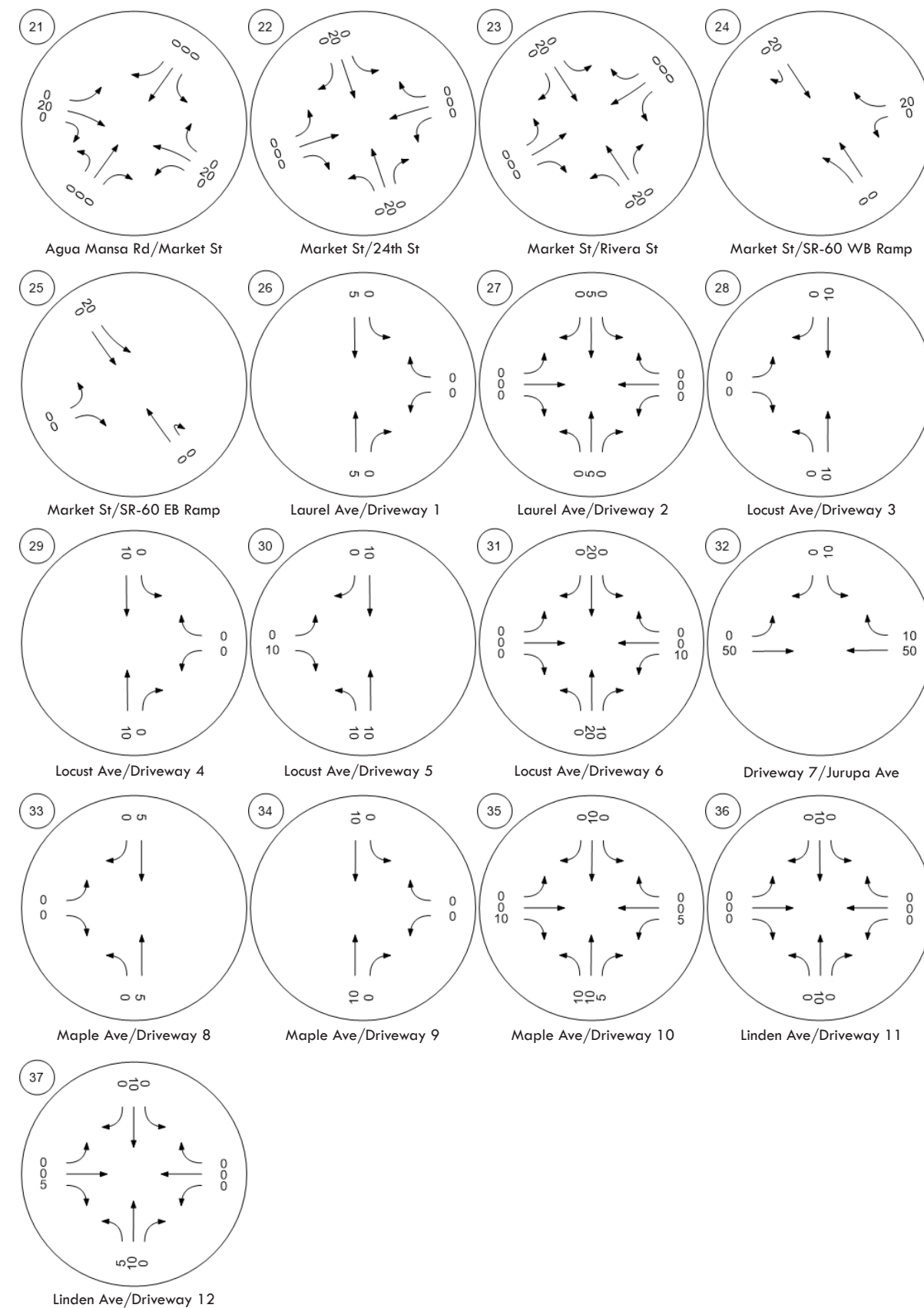
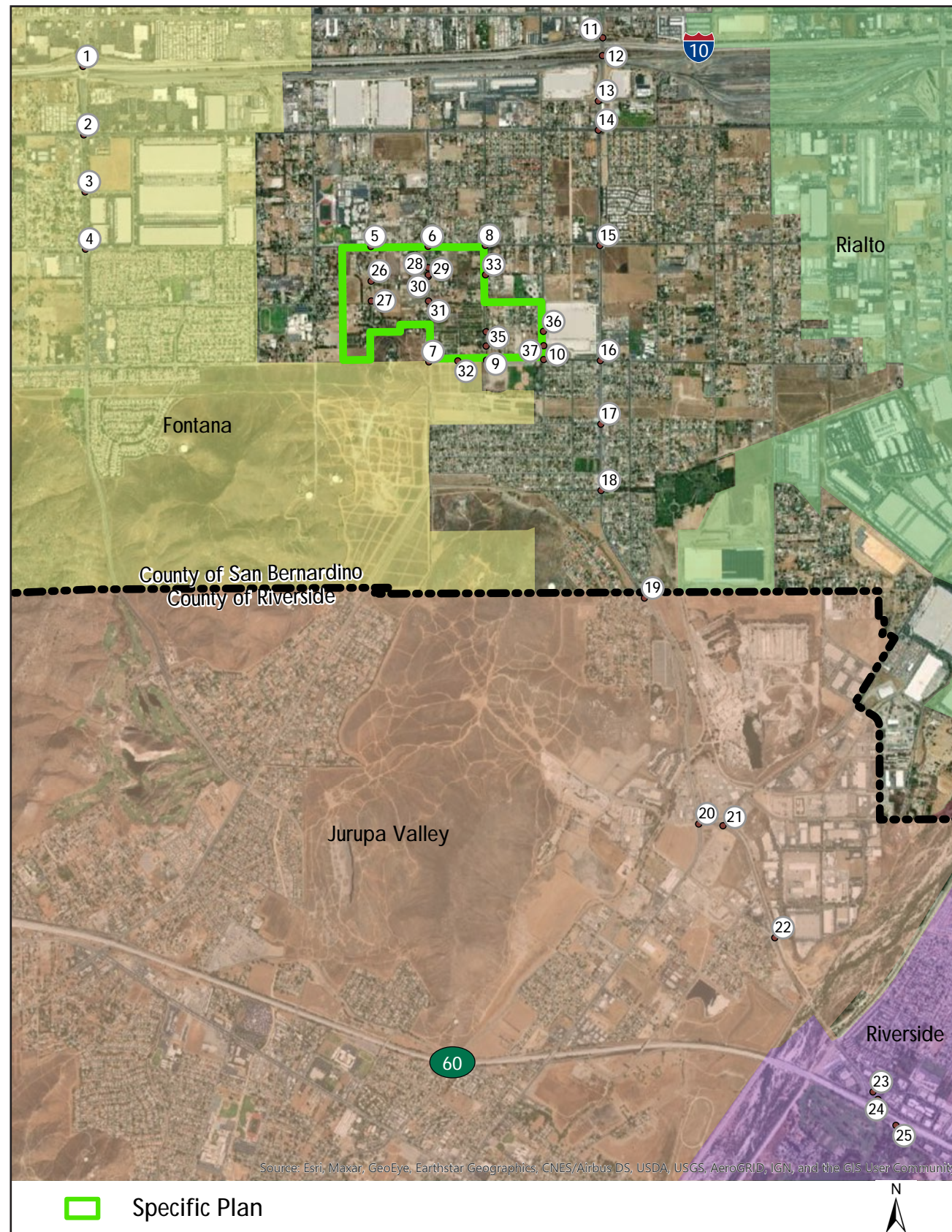




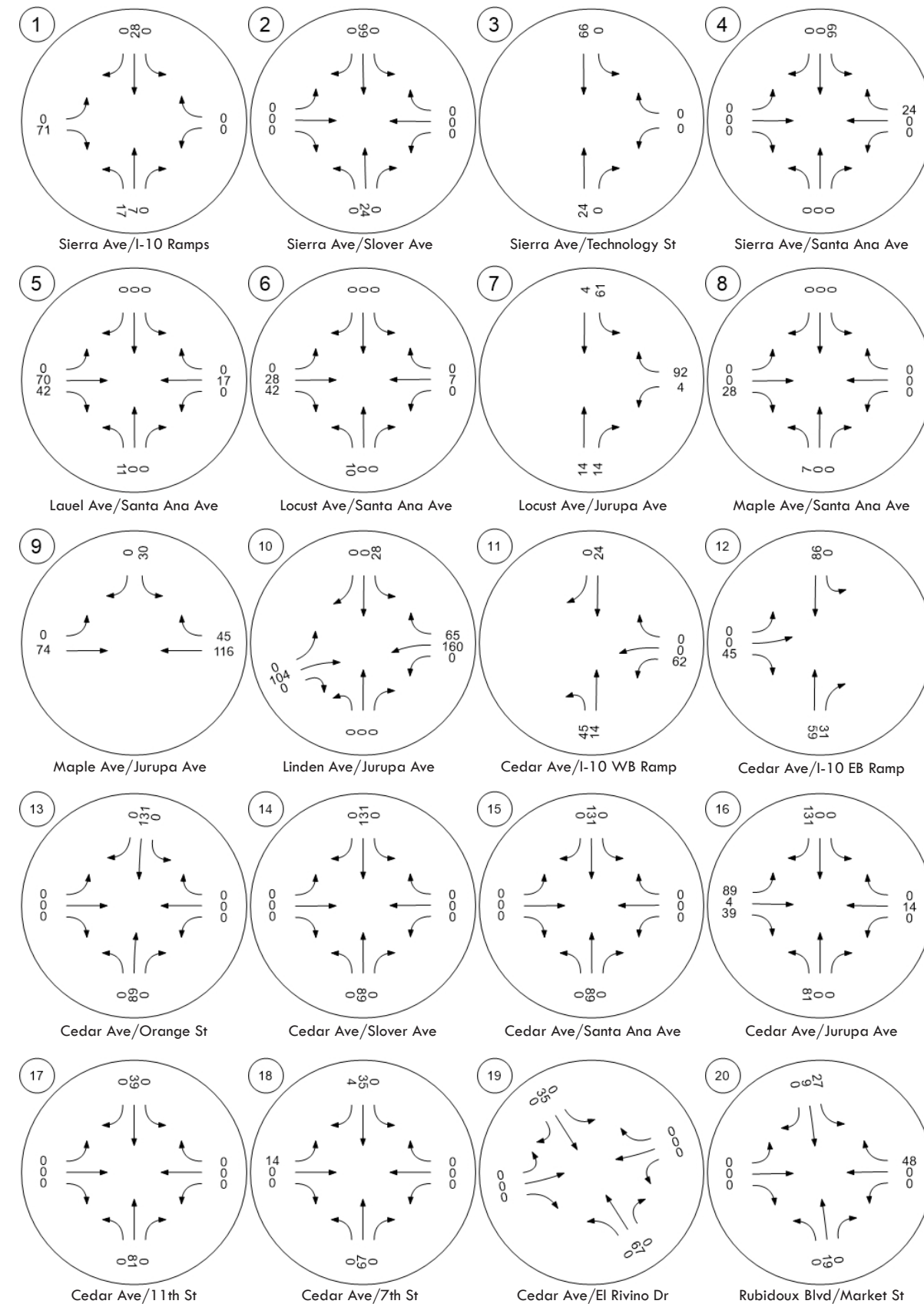
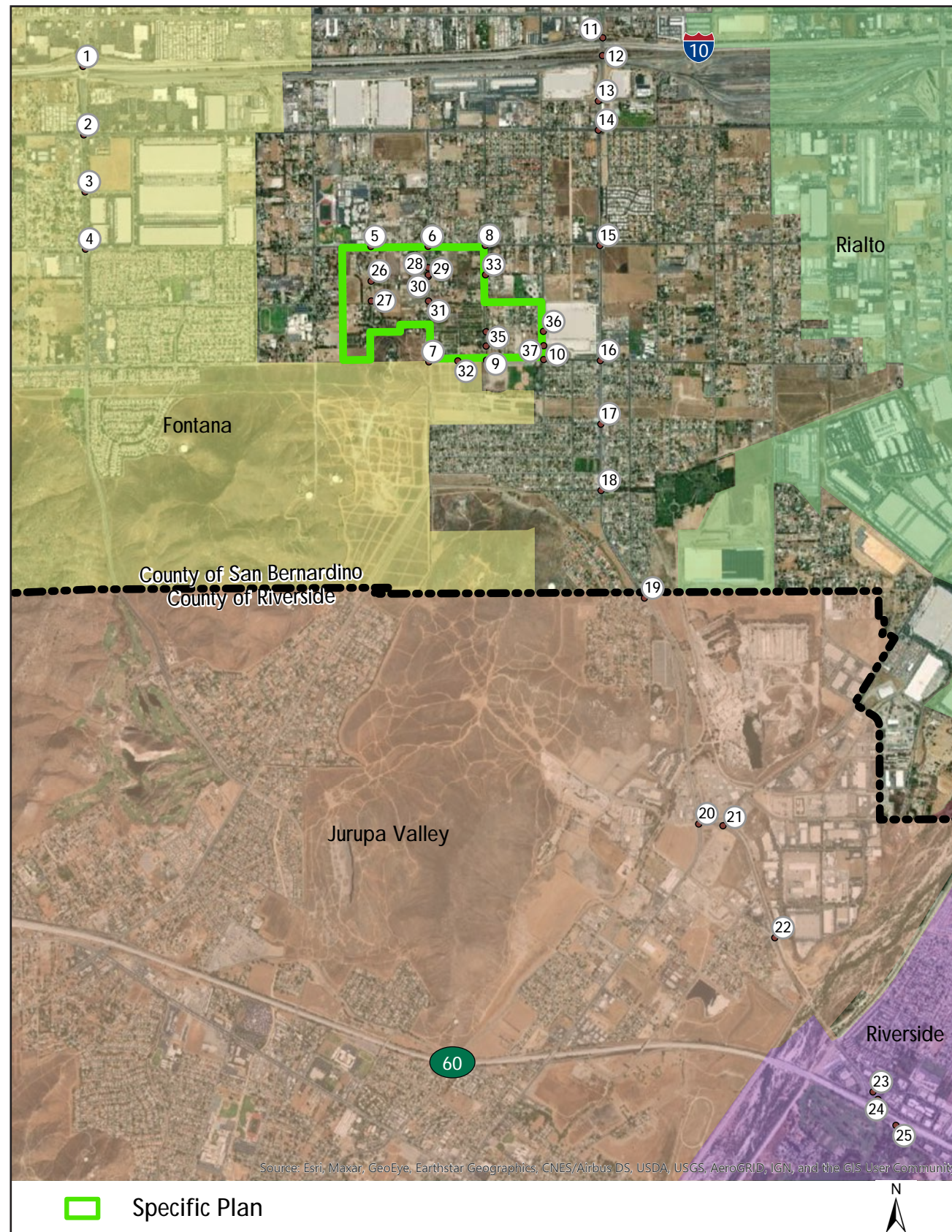
Truck PM Assignment (A)



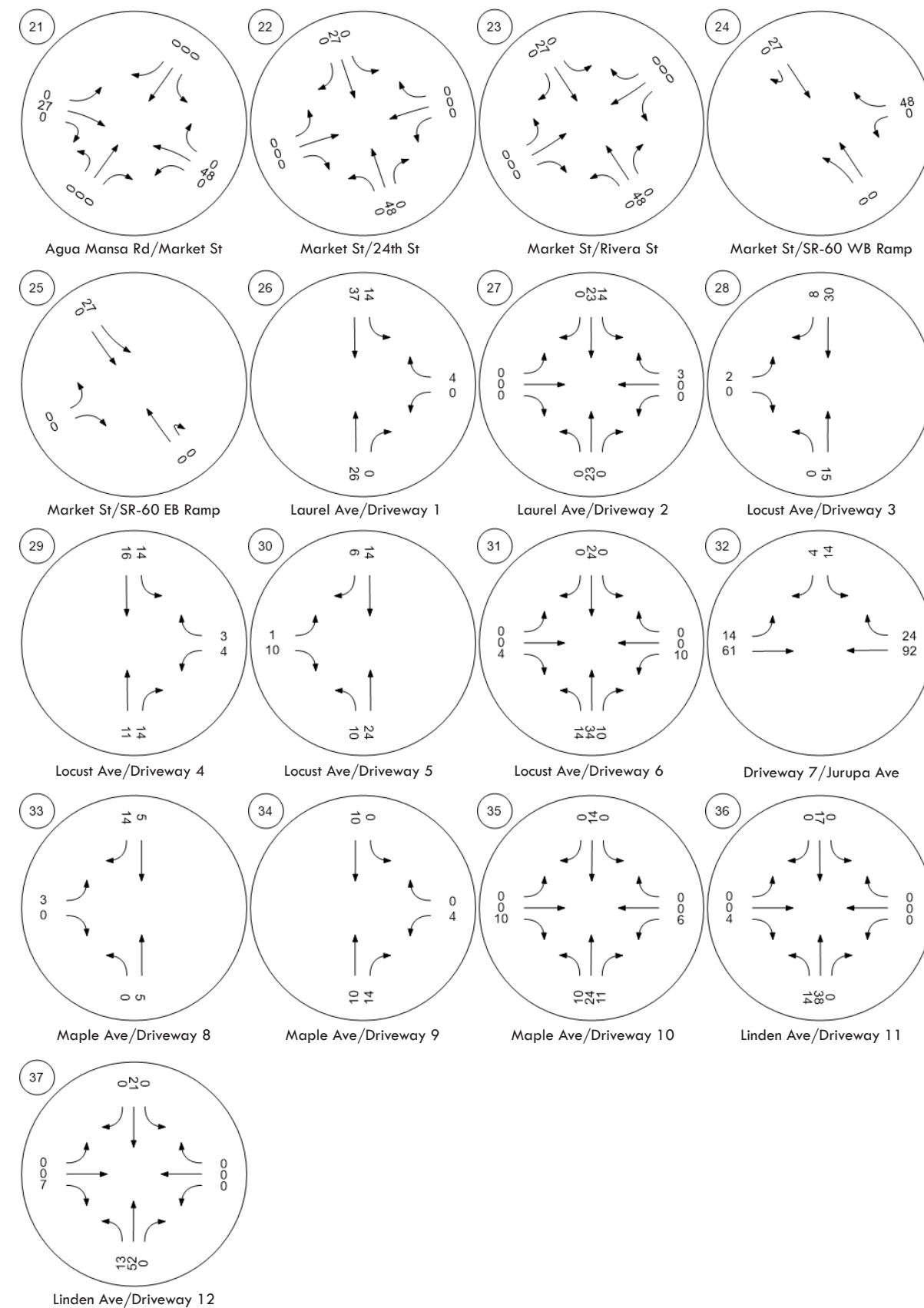
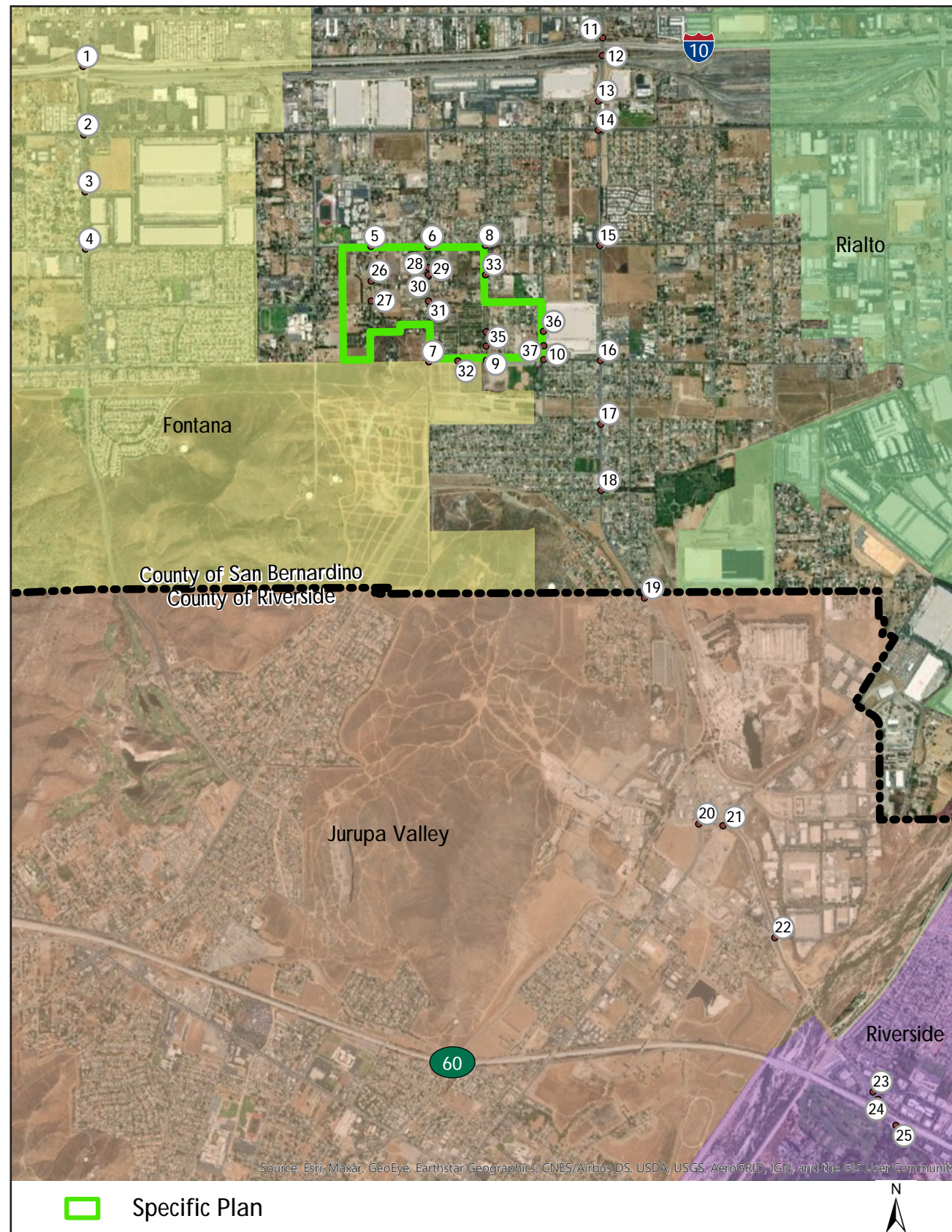
Truck PM Assignment (B)



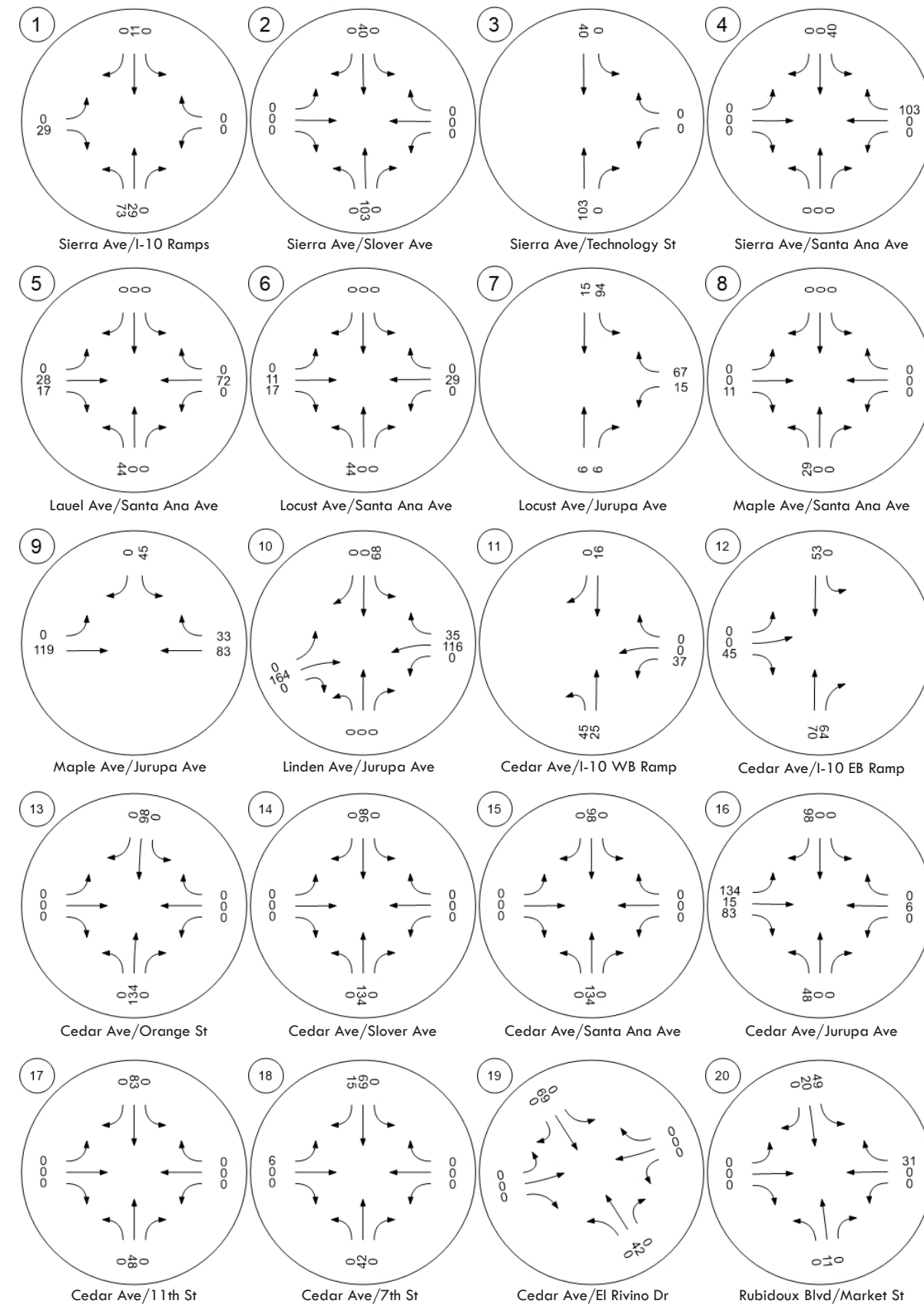
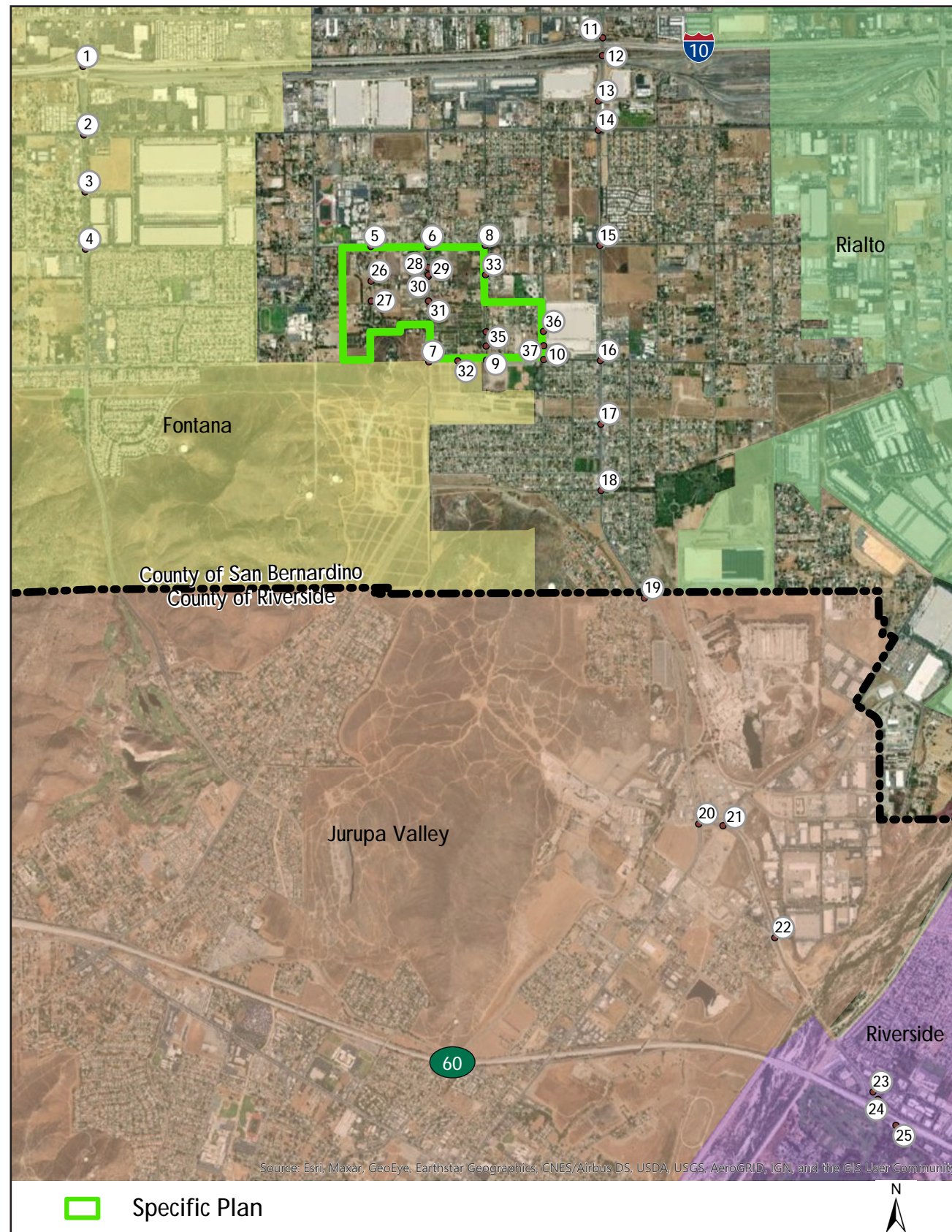
Total AM Assignment (A)



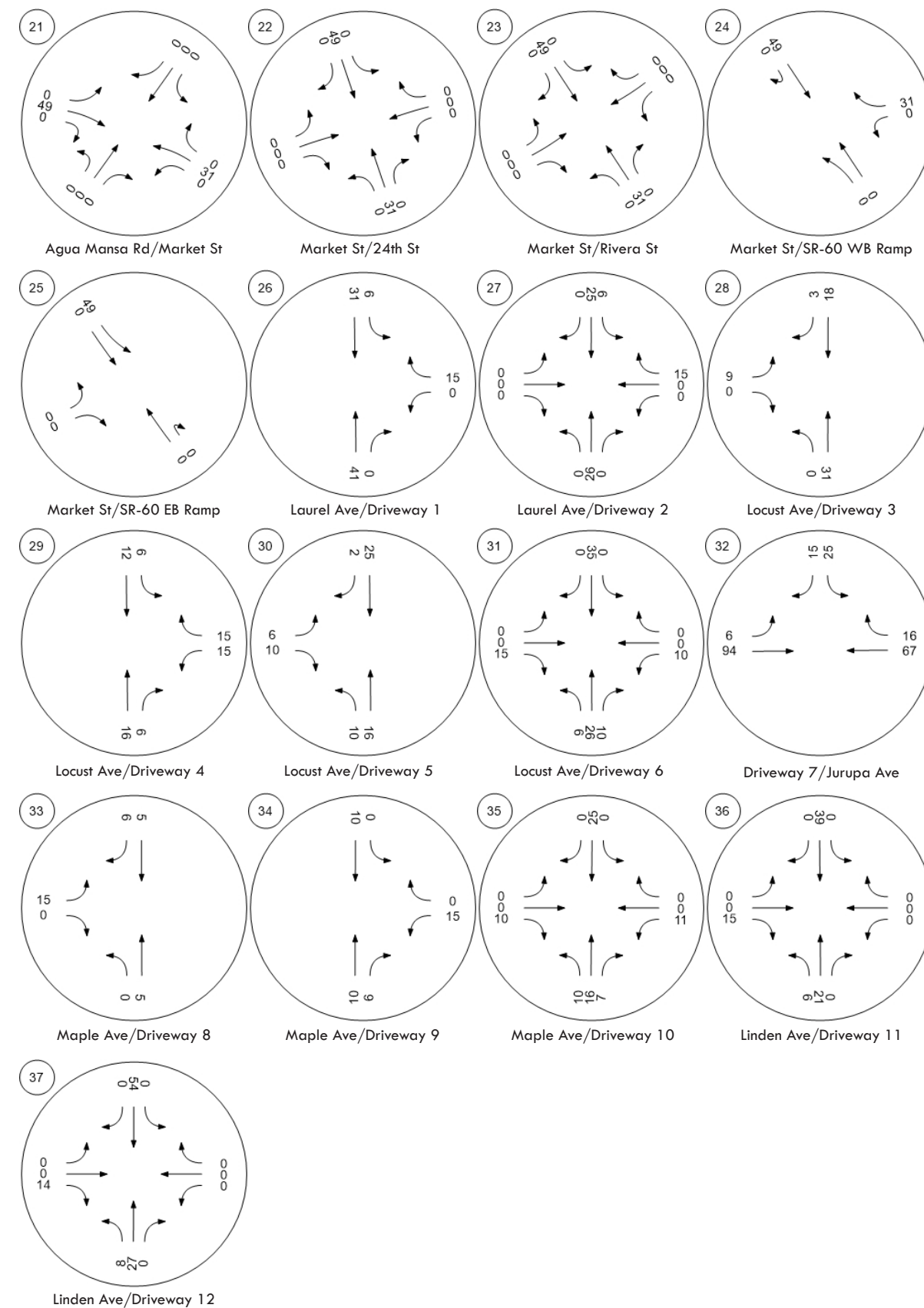
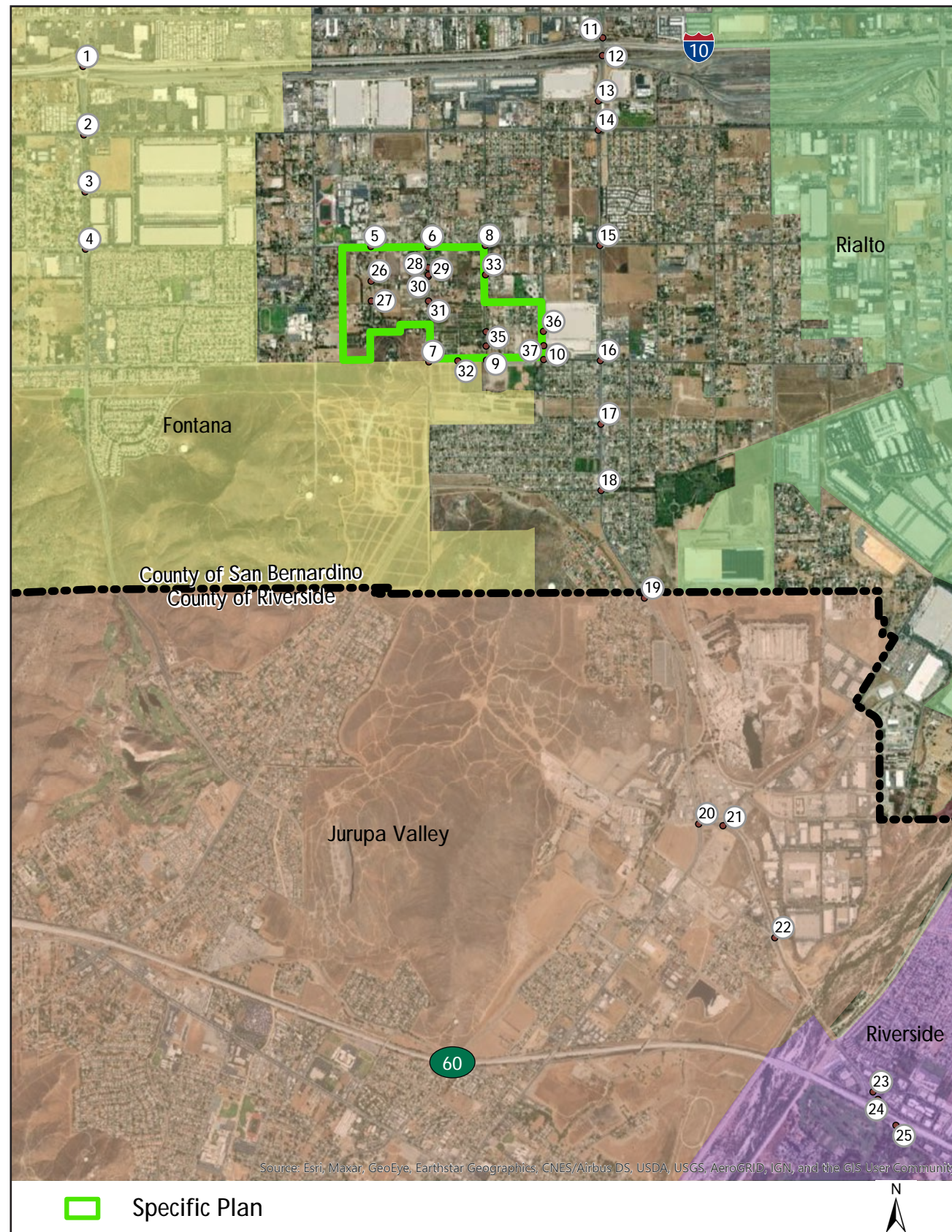
**Total AM Assignment (B)**



Total PM Assignment (A)



Total PM Assignment (B)



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*APPENDIX B – COUNT SHEETS*

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# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Sierra  
I-10 Ramps

**PROJECT #:** SC2668  
**LOCATION #:** 1  
**CONTROL:** SIGNAL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Sierra			Sierra			I-10 Ramps			I-10 Ramps			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	1	2	3	1	2	X	1	2	X	1	

<b>AM</b>	6:00 AM	98	80	47	56	61	220	83	0	58	37	0	85	822
	6:15 AM	107	80	41	77	74	253	115	0	72	57	0	93	967
	6:30 AM	139	98	63	82	88	228	157	0	76	64	0	97	1,091
	6:45 AM	118	132	42	78	105	218	192	0	95	73	0	119	1,171
	7:00 AM	102	118	56	84	81	198	155	0	70	88	0	113	1,062
	7:15 AM	121	119	64	117	112	212	152	0	89	72	0	134	1,190
	7:30 AM	139	160	56	132	139	221	210	0	90	80	0	130	1,356
	7:45 AM	110	155	56	136	137	214	217	0	116	65	0	138	1,342
	8:00 AM	121	168	62	70	105	195	188	0	104	73	0	123	1,205
	8:15 AM	108	139	66	99	129	219	199	0	92	74	0	146	1,269
	8:30 AM	103	144	51	81	109	172	189	0	110	96	0	143	1,196
	8:45 AM	98	155	93	91	141	142	155	0	107	85	0	155	1,219
	VOLUMES	1,361	1,545	693	1,102	1,279	2,490	2,008	0	1,076	861	0	1,474	13,887
	APPROACH %	38%	43%	19%	23%	26%	51%	65%	0%	35%	37%	0%	63%	
APP/DEPART	3,599	/	5,027	4,870	/	3,216	3,083	/	1,795	2,335	/	3,850	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	477	621	239	437	510	848	813	0	402	291	0	536	5,172	
APPROACH %	36%	46%	18%	24%	28%	47%	67%	0%	33%	35%	0%	65%		
PEAK HR FACTOR	0.943			0.912			0.913			0.941			0.953	
APP/DEPART	1,337	/	1,970	1,794	/	1,202	1,215	/	676	827	/	1,325	0	
<b>PM</b>	03:00 PM	125	248	117	112	172	184	218	0	103	110	0	149	1,536
	3:15 PM	117	238	115	136	218	188	219	0	102	88	0	170	1,588
	3:30 PM	125	260	116	136	192	177	250	0	124	106	0	165	1,648
	3:45 PM	108	253	155	132	257	194	184	0	110	111	0	171	1,672
	4:00 PM	120	265	134	124	210	205	260	0	122	100	0	121	1,660
	4:15 PM	107	271	135	150	212	204	218	0	119	102	0	116	1,633
	4:30 PM	102	286	101	138	190	207	235	0	131	127	0	148	1,662
	4:45 PM	108	262	114	112	216	173	229	0	135	101	0	149	1,596
	5:00 PM	112	267	142	128	194	199	250	0	118	95	0	131	1,633
	5:15 PM	102	245	124	137	224	228	202	0	104	112	0	159	1,634
	5:30 PM	103	256	128	110	219	185	224	0	138	107	0	125	1,594
	5:45 PM	75	204	85	113	248	179	197	0	93	119	0	142	1,453
	VOLUMES	1,301	3,052	1,463	1,524	2,549	2,322	2,682	0	1,396	1,276	0	1,744	19,306
	APPROACH %	22%	52%	25%	24%	40%	36%	66%	0%	34%	42%	0%	58%	
APP/DEPART	5,816	/	7,477	6,394	/	5,220	4,077	/	2,987	3,019	/	3,623	0	
BEGIN PEAK HR	3:45 PM													
VOLUMES	436	1,075	524	543	868	809	895	0	482	439	0	556	6,626	
APPROACH %	21%	53%	26%	24%	39%	36%	65%	0%	35%	44%	0%	56%		
PEAK HR FACTOR	0.981			0.954			0.902			0.885			0.991	
APP/DEPART	2,035	/	2,525	2,220	/	1,789	1,377	/	1,067	995	/	1,245	0	



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Sierra  
Slover

**PROJECT #:** SC2668  
**LOCATION #:** 2  
**CONTROL:** SIGNAL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Sierra	Sierra	Sierra	Sierra	Sierra	Sierra	Slover	Slover	Slover	Slover	Slover	Slover	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	4	0	2	3	0	2	2	1	2	2	2	

<b>AM</b>	6:00 AM	11	134	4	65	89	20	25	9	8	2	17	44	427
	6:15 AM	7	150	3	74	101	24	28	12	8	3	19	53	480
	6:30 AM	13	162	6	79	102	23	32	16	14	2	25	61	534
	6:45 AM	19	210	12	78	140	27	32	41	8	5	29	71	670
	7:00 AM	20	217	9	82	157	29	31	31	10	8	20	73	685
	7:15 AM	22	215	8	86	161	31	35	25	9	7	23	74	695
	7:30 AM	24	229	10	91	174	34	40	21	8	10	29	70	737
	7:45 AM	30	273	8	102	200	42	36	32	14	8	36	70	849
	8:00 AM	29	242	25	119	182	23	35	48	16	6	58	77	857
	8:15 AM	30	224	14	106	129	25	31	26	5	12	54	57	711
	8:30 AM	26	220	21	100	168	32	47	46	11	12	41	68	788
	8:45 AM	27	169	18	108	168	24	43	38	16	14	44	65	732
	VOLUMES	256	2,443	138	1,087	1,769	331	413	342	124	89	393	780	8,162
	APPROACH %	9%	86%	5%	34%	56%	10%	47%	39%	14%	7%	31%	62%	
APP/DEPART	2,836	/	3,635	3,186	/	1,982	879	/	1,566	1,262	/	979	0	
BEGIN PEAK HR	7:45 AM													
VOLUMES	114	958	68	426	678	121	148	151	45	38	188	271	3,204	
APPROACH %	10%	84%	6%	35%	55%	10%	43%	44%	13%	8%	38%	55%		
PEAK HR FACTOR	0.917			0.892			0.833			0.884			0.935	
APP/DEPART	1,139	/	1,376	1,225	/	761	343	/	645	497	/	423	0	
<b>PM</b>	03:00 PM	36	228	38	151	203	20	74	134	19	44	55	172	1,170
	3:15 PM	45	257	40	163	228	23	63	113	26	45	71	178	1,251
	3:30 PM	41	248	32	143	218	27	65	104	27	53	88	175	1,220
	3:45 PM	37	292	47	148	276	27	87	130	20	29	82	161	1,334
	4:00 PM	38	292	41	162	263	31	74	105	16	54	53	184	1,310
	4:15 PM	34	277	39	150	237	30	63	119	17	33	84	175	1,256
	4:30 PM	45	297	42	160	250	36	60	127	21	51	63	129	1,277
	4:45 PM	39	258	54	163	251	29	73	133	21	39	68	135	1,262
	5:00 PM	43	268	42	149	236	31	63	125	27	67	76	192	1,317
	5:15 PM	44	276	52	157	249	25	80	125	27	55	71	140	1,298
	5:30 PM	38	254	49	168	271	22	51	117	34	53	56	142	1,253
	5:45 PM	45	233	51	182	251	28	63	112	23	57	61	130	1,236
	VOLUMES	483	3,179	524	1,894	2,930	327	813	1,441	277	578	826	1,911	15,180
	APPROACH %	12%	76%	13%	37%	57%	6%	32%	57%	11%	17%	25%	58%	
APP/DEPART	4,185	/	5,902	5,151	/	3,785	2,531	/	3,859	3,314	/	1,635	0	
BEGIN PEAK HR	3:45 PM													
VOLUMES	152	1,158	168	620	1,025	123	283	480	74	166	282	649	5,176	
APPROACH %	10%	78%	11%	35%	58%	7%	34%	57%	9%	15%	26%	59%		
PEAK HR FACTOR	0.966			0.970			0.883			0.940			0.970	
APP/DEPART	1,478	/	2,089	1,767	/	1,264	836	/	1,267	1,096	/	557	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Sierra  
Technology

**PROJECT #:** SC2668  
**LOCATION #:** 3  
**CONTROL:** SIGNAL

PCE Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	◀ W	▲ N S ▼	E ▶
	Class	1	2	3	4	5	6	7	8	9				
	Factor	1	1.5	2	3	2	2	3	4	5				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Sierra			Sierra			Technology			Technology			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	3	1	2	3	X	X	X	X	1	X	1	

<b>AM</b>	6:00 AM	0	158	0	17	96	0	0	0	0	0	0	16	286
	6:15 AM	0	161	0	4	105	0	0	0	0	0	0	14	284
	6:30 AM	0	232	1	9	145	0	0	0	0	0	0	9	395
	6:45 AM	0	206	2	5	113	0	0	0	0	0	0	12	338
	7:00 AM	0	206	1	17	130	0	0	0	0	0	0	7	360
	7:15 AM	0	243	1	6	183	0	0	0	0	0	0	6	438
	7:30 AM	0	284	3	8	196	0	0	0	0	0	0	9	500
	7:45 AM	0	286	4	9	186	0	0	0	0	0	0	10	493
	8:00 AM	0	264	8	12	134	0	0	0	0	8	0	11	436
	8:15 AM	0	258	3	16	173	0	0	0	0	0	0	20	469
	8:30 AM	0	228	1	14	172	0	0	0	0	1	0	8	424
	8:45 AM	0	243	0	18	190	0	0	0	0	1	0	16	467
	VOLUMES	0	2,765	24	132	1,822	0	0	0	0	10	0	135	4,888
	APPROACH %	0%	99%	1%	7%	93%	0%	0%	0%	0%	7%	0%	93%	
APP/DEPART	2,789	/	2,900	1,954	/	1,832	0	/	156	145	/	0	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	0	1,092	18	44	688	0	0	0	0	8	0	49	1,897	
APPROACH %	0%	98%	2%	6%	94%	0%	0%	0%	0%	14%	0%	86%		
PEAK HR FACTOR	0.958		0.899		0.000		0.724							0.949
APP/DEPART	1,109	/	1,140	732	/	696	0	/	61	57	/	0	0	
<b>PM</b>	03:00 PM	0	307	6	19	290	0	0	0	2	0	12	635	
	3:15 PM	0	339	4	15	278	0	0	0	0	0	22	657	
	3:30 PM	0	325	2	12	286	0	0	0	1	0	12	638	
	3:45 PM	0	368	5	21	310	0	0	0	3	0	12	718	
	4:00 PM	0	330	4	27	313	0	0	0	2	0	19	694	
	4:15 PM	0	345	5	23	262	0	0	0	3	0	11	648	
	4:30 PM	0	374	0	15	313	0	0	0	1	0	15	717	
	4:45 PM	0	344	3	11	286	0	0	0	3	0	15	661	
	5:00 PM	0	348	7	11	319	0	0	0	3	0	10	697	
	5:15 PM	0	374	2	8	316	0	0	0	1	0	7	707	
	5:30 PM	0	327	2	24	336	0	0	0	0	0	8	696	
	5:45 PM	0	281	3	20	313	0	0	0	0	0	10	626	
	VOLUMES	0	4,058	42	203	3,619	0	0	0	19	0	152	8,092	
	APPROACH %	0%	99%	1%	5%	95%	0%	0%	0%	11%	0%	89%		
APP/DEPART	4,100	/	4,210	3,822	/	3,638	0	/	245	170	/	0	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	0	1,439	12	44	1,233	0	0	0	8	0	47	2,782		
APPROACH %	0%	99%	1%	3%	97%	0%	0%	0%	15%	0%	85%			
PEAK HR FACTOR	0.964		0.969		0.000		0.779							0.970
APP/DEPART	1,451	/	1,486	1,277	/	1,241	0	/	56	55	/	0	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<b>DATE:</b> 9/29/20 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Bloomington Sierra Santa Ana	PROJECT #: LOCATION #: CONTROL:	SC2668 4 SIGNAL
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PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
	Class	1	2	3	4	5	6			
	Factor	1	1.5	2	3	2	2			

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	1	2	3	0	1	2	1	1	2	1	

	AM												
	8:00 AM	8:15 AM	8:30 AM	8:45 AM	VOLUMES	APPROACH %	APP/DEPART	BEGIN PEAK HR	VOLUMES	APPROACH %	PEAK HR FACTOR	APP/DEPART	TOTAL
	8	137	4	5	79	10	10	8	2	3	9	10	283
	11	132	7	5	78	16	8	10	2	6	14	20	308
	16	201	20	7	142	4	12	4	3	4	13	18	442
	18	183	6	8	101	6	14	16	8	3	9	9	379
	19	185	3	8	103	22	14	9	4	4	12	11	392
	19	206	3	23	142	18	18	3	2	3	13	14	462
	28	232	5	12	160	10	25	4	5	7	14	19	519
	18	262	12	14	156	10	18	19	12	10	10	21	561
	28	249	4	8	134	13	15	17	7	12	16	13	513
	31	215	6	11	141	18	20	7	8	8	19	17	500
	25	195	7	5	147	18	22	24	8	10	15	16	488
	31	198	19	14	149	21	26	16	15	12	14	10	523
	249	2,392	95	118	1,529	164	199	136	74	81	156	177	5,367
	9%	87%	3%	7%	84%	9%	49%	33%	18%	19%	38%	43%	
	2,735	/	2,768	1,810	/	1,683	408	/	348	414	/	568	0
	104	957	27	44	590	50	77	46	32	37	59	70	2,092
	10%	88%	2%	6%	86%	7%	50%	30%	20%	22%	35%	42%	
	0.933	7:30 AM		0.944	0.944		0.796	0.940		0.940	0.940		0.933
	1,088	/	1,104	684	/	659	155	/	117	166	/	213	0
	32	264	3	26	247	16	32	32	27	13	33	25	747
	45	274	4	28	227	19	42	21	27	19	25	24	753
	29	271	4	30	233	22	34	23	37	21	23	18	743
	31	277	10	34	256	19	42	27	31	23	32	22	802
	42	277	2	26	268	25	47	33	23	11	32	20	804
	34	292	10	16	245	20	42	30	25	9	29	15	765
	30	294	6	22	266	20	37	31	28	35	34	24	825
	38	296	14	26	253	21	31	40	31	21	20	23	811
	44	283	5	22	267	21	37	26	32	19	25	28	807
	38	320	15	27	249	27	39	28	23	16	29	15	823
	39	257	11	28	263	16	37	31	18	26	26	24	775
	35	230	10	35	243	32	43	26	24	12	25	21	735
	436	3,331	93	316	3,015	257	459	345	326	223	332	258	9,388
	11%	86%	2%	9%	84%	7%	41%	31%	29%	27%	41%	32%	
	3,860	/	4,047	3,588	/	3,563	1,129	/	754	812	/	1,025	0
	150	1,191	39	95	1,034	89	143	124	114	91	108	90	3,265
	11%	86%	3%	8%	85%	7%	38%	33%	30%	31%	38%	31%	
	0.928	4:30 PM		0.985	0.985		0.944	0.944		0.778	0.778		0.990
	1,380	/	1,423	1,218	/	1,238	380	/	258	288	/	347	0

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Laurel  
Santa Ana

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
5  
STOP ALL

PCE Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
	<b>Class</b>	1	2	3	4	5	6	7	8	9			
	<b>Factor</b>	1	1.5	2	3	2	2	3	4	5			

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Laurel			Laurel			Santa Ana			Santa Ana			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	1	0	0	1	0	

<b>AM</b>	6:00 AM	1	1	1	1	0	0	0	15	1	0	21	1	41
	6:15 AM	0	0	3	2	2	0	0	19	0	2	29	0	56
	6:30 AM	1	1	0	2	1	2	0	20	0	0	31	4	62
	6:45 AM	1	1	1	3	1	2	0	14	3	0	31	1	57
	7:00 AM	0	1	3	2	0	0	1	18	1	6	29	0	59
	7:15 AM	0	5	3	2	0	1	0	17	1	0	40	0	69
	7:30 AM	0	1	3	1	0	0	0	24	0	0	36	0	65
	7:45 AM	1	1	0	6	0	2	1	33	1	0	45	0	90
	8:00 AM	1	0	0	5	0	1	2	27	0	3	26	4	69
	8:15 AM	2	2	0	2	0	0	3	37	0	0	52	0	97
	8:30 AM	0	0	0	2	0	5	1	34	1	0	30	4	76
	8:45 AM	1	0	2	0	0	2	1	40	1	3	51	0	100
	VOLUMES	8	13	16	27	4	15	9	296	9	13	417	14	838
	APPROACH %	22%	35%	43%	59%	9%	32%	3%	94%	3%	3%	94%	3%	
APP/DEPART	36	/	35	46	/	26	313	/	338	443	/	439	0	
BEGIN PEAK HR	8:00 AM													
VOLUMES	4	2	2	9	0	8	7	137	2	6	158	8	342	
APPROACH %	50%	25%	25%	52%	0%	48%	5%	94%	1%	4%	92%	4%		
PEAK HR FACTOR	0.500			0.589			0.880			0.799			0.854	
APP/DEPART	8	/	17	17	/	8	146	/	148	171	/	170	0	
<b>PM</b>	03:00 PM	2	0	0	5	2	2	1	77	0	1	57	5	152
	3:15 PM	1	1	2	8	3	0	5	76	0	3	73	6	176
	3:30 PM	0	1	0	7	2	1	2	75	1	0	73	2	163
	3:45 PM	0	4	4	4	1	0	3	96	4	3	63	4	183
	4:00 PM	0	3	0	4	1	7	0	85	1	3	72	4	180
	4:15 PM	0	0	1	2	1	1	1	77	0	0	54	1	138
	4:30 PM	0	1	1	2	0	3	1	90	1	2	51	1	152
	4:45 PM	3	2	0	6	1	0	2	93	0	4	73	11	193
	5:00 PM	1	2	0	6	0	2	1	86	0	1	62	6	166
	5:15 PM	0	0	2	7	1	1	4	85	1	0	73	2	175
	5:30 PM	1	1	1	4	0	2	3	83	0	0	54	5	153
	5:45 PM	0	4	0	6	2	1	2	94	3	0	68	5	183
	VOLUMES	8	18	11	60	13	20	25	1,013	10	16	769	51	2,011
	APPROACH %	21%	50%	29%	65%	14%	22%	2%	97%	1%	2%	92%	6%	
APP/DEPART	36	/	94	92	/	38	1,048	/	1,083	835	/	797	0	
BEGIN PEAK HR	3:15 PM													
VOLUMES	1	9	6	23	6	8	10	331	6	9	280	16	702	
APPROACH %	7%	57%	37%	62%	16%	22%	3%	96%	2%	3%	92%	5%		
PEAK HR FACTOR	0.536			0.760			0.848			0.933			0.961	
APP/DEPART	15	/	34	37	/	20	346	/	359	304	/	289	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Locust  
Santa Ana

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
6  
STOP ALL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Locust			Locust			Santa Ana			Santa Ana			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	1	0	0	1	0	

<b>AM</b>	6:00 AM	11	24	4	1	12	1	0	10	8	8	10	1	89
	6:15 AM	11	26	7	0	18	0	0	10	12	7	19	2	110
	6:30 AM	8	32	5	0	11	2	0	16	8	12	20	5	119
	6:45 AM	16	28	7	0	25	0	0	6	11	8	19	4	123
	7:00 AM	8	25	12	3	13	5	1	10	16	8	20	3	123
	7:15 AM	11	29	5	2	13	0	0	8	17	10	31	4	130
	7:30 AM	9	33	6	1	18	1	0	13	12	20	25	4	142
	7:45 AM	20	41	4	0	15	2	3	23	13	6	22	5	154
	8:00 AM	6	25	8	2	11	1	1	20	15	12	22	2	125
	8:15 AM	20	20	3	2	11	2	1	15	17	4	28	2	125
	8:30 AM	9	32	9	1	12	0	4	23	11	4	29	2	135
	8:45 AM	14	36	10	2	10	2	2	20	16	6	27	2	146
	VOLUMES	143	349	80	14	168	16	12	173	155	103	271	36	1,516
	APPROACH %	25%	61%	14%	7%	85%	8%	4%	51%	46%	25%	66%	9%	
APP/DEPART	571	/	397	197	/	425	340	/	266	409	/	429	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	46	128	23	5	57	4	4	63	57	48	100	15	549	
APPROACH %	23%	65%	12%	8%	86%	6%	3%	51%	46%	29%	61%	9%		
PEAK HR FACTOR	0.758			0.825			0.805			0.835			0.894	
APP/DEPART	197	/	147	66	/	162	124	/	91	162	/	150	0	
<b>PM</b>	03:00 PM	13	58	13	2	46	6	5	50	29	9	44	8	282
	3:15 PM	27	42	11	5	36	5	6	42	36	9	48	2	266
	3:30 PM	29	61	19	8	48	4	4	51	33	10	40	6	311
	3:45 PM	17	74	14	2	52	2	1	56	41	4	51	5	319
	4:00 PM	21	50	18	2	45	3	2	55	40	8	57	10	311
	4:15 PM	25	63	10	4	59	0	0	45	35	14	31	6	290
	4:30 PM	16	56	21	10	53	0	2	60	31	13	37	6	304
	4:45 PM	27	60	14	4	39	2	2	69	34	4	59	6	319
	5:00 PM	20	57	12	1	48	3	2	58	27	7	44	5	283
	5:15 PM	21	53	17	8	48	3	4	48	39	9	52	11	310
	5:30 PM	22	56	14	4	54	5	2	46	38	9	33	2	283
	5:45 PM	26	53	15	3	35	2	2	67	28	6	41	6	283
	VOLUMES	263	680	177	52	560	35	32	644	409	101	535	72	3,558
	APPROACH %	23%	61%	16%	8%	87%	5%	3%	59%	38%	14%	76%	10%	
APP/DEPART	1,119	/	783	647	/	1,070	1,085	/	872	708	/	833	0	
BEGIN PEAK HR	3:30 PM													
VOLUMES	91	247	61	16	204	9	7	207	149	36	179	27	1,231	
APPROACH %	23%	62%	15%	7%	89%	4%	2%	57%	41%	15%	74%	11%		
PEAK HR FACTOR	0.924			0.905			0.925			0.803			0.966	
APP/DEPART	399	/	281	228	/	389	363	/	283	241	/	279	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Locust  
Jurupa

**PROJECT #:** SC2668  
**LOCATION #:** 7  
**CONTROL:** STOP W

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Locust			Locust			Jurupa			Jurupa			
	NL X	NT 1	NR 0	SL 0	ST 1	SR X	EL X	ET X	ER X	WL 0	WT X	WR 0	

<b>AM</b>	6:00 AM	0	35	7	5	24	0	0	0	0	9	0	4	83
	6:15 AM	0	33	1	1	34	0	0	0	0	5	0	5	79
	6:30 AM	0	33	7	0	32	0	0	0	0	9	0	6	87
	6:45 AM	0	44	10	7	35	0	0	0	0	8	0	8	111
	7:00 AM	0	33	6	2	36	0	0	0	0	6	0	10	92
	7:15 AM	0	41	8	7	29	0	0	0	0	7	0	4	95
	7:30 AM	0	44	7	2	39	0	0	0	0	8	0	7	106
	7:45 AM	0	45	5	10	27	0	0	0	0	7	0	8	101
	8:00 AM	0	39	9	3	24	0	0	0	0	9	0	1	84
	8:15 AM	0	35	9	11	26	0	0	0	0	5	0	12	96
	8:30 AM	0	28	4	4	26	0	0	0	0	8	0	5	74
	8:45 AM	0	50	8	1	29	0	0	0	0	9	0	9	104
	VOLUMES	0	457	80	52	357	0	0	0	0	88	0	77	1,109
	APPROACH %	0%	85%	15%	13%	87%	0%	0%	0%	0%	53%	0%	47%	
APP/DEPART	537	/	534	408	/	444	0	/	132	165	/	0	0	
BEGIN PEAK HR	6:45 AM													
VOLUMES	0	161	31	17	137	0	0	0	0	29	0	29	403	
APPROACH %	0%	84%	16%	11%	89%	0%	0%	0%	0%	50%	0%	50%		
PEAK HR FACTOR	0.895			0.939			0.000			0.891			0.911	
APP/DEPART	192	/	190	154	/	166	0	/	48	57	/	0	0	
<b>PM</b>	03:00 PM	0	73	19	14	62	0	0	0	0	4	0	11	183
	3:15 PM	0	74	20	14	65	0	0	0	0	7	0	9	188
	3:30 PM	0	90	10	11	73	0	0	0	0	13	0	24	220
	3:45 PM	0	94	18	8	96	0	0	0	0	4	0	6	226
	4:00 PM	0	75	16	15	73	0	0	0	0	5	0	12	195
	4:15 PM	0	79	34	12	97	0	0	0	0	5	0	6	232
	4:30 PM	0	81	44	18	76	0	0	0	0	12	0	12	242
	4:45 PM	0	84	36	10	69	0	0	0	0	10	0	15	222
	5:00 PM	0	80	28	14	59	0	0	0	0	11	0	9	201
	5:15 PM	0	76	25	22	71	0	0	0	0	14	0	11	219
	5:30 PM	0	72	21	10	81	0	0	0	0	8	0	13	204
	5:45 PM	0	79	17	10	67	0	0	0	0	6	0	12	190
	VOLUMES	0	954	286	157	886	0	0	0	0	97	0	139	2,518
	APPROACH %	0%	77%	23%	15%	85%	0%	0%	0%	0%	41%	0%	59%	
APP/DEPART	1,239	/	1,093	1,043	/	983	0	/	443	236	/	0	0	
BEGIN PEAK HR	4:15 PM													
VOLUMES	0	323	141	54	300	0	0	0	0	37	0	42	896	
APPROACH %	0%	70%	30%	15%	85%	0%	0%	0%	0%	47%	0%	53%		
PEAK HR FACTOR	0.931			0.815			0.000			0.806			0.928	
APP/DEPART	464	/	365	354	/	337	0	/	195	79	/	0	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Maple  
Santa Ana

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
8  
STOP N/S

PCE Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
	<u>Class</u>	1	2	3	4	5	6	7	8	9			
	<u>Factor</u>	1	1.5	2	3	2	2	2	2	2			

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Maple			Maple			Santa Ana			Santa Ana			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	1	0	0	1	0	

<b>AM</b>	6:00 AM	1	0	0	0	0	2	0	16	0	3	17	2	40
	6:15 AM	1	3	0	0	0	2	4	14	0	1	26	0	50
	6:30 AM	1	3	0	0	1	3	1	28	0	1	29	0	67
	6:45 AM	0	3	0	5	5	3	1	13	2	0	28	1	60
	7:00 AM	4	0	0	2	2	0	1	21	2	0	27	0	59
	7:15 AM	2	2	5	2	2	5	2	13	2	0	37	5	77
	7:30 AM	2	2	1	1	2	6	0	23	1	0	40	0	77
	7:45 AM	1	1	3	2	0	2	1	23	1	1	30	1	66
	8:00 AM	2	1	0	0	5	7	1	27	1	5	27	1	76
	8:15 AM	0	0	2	1	2	5	2	17	0	0	26	1	56
	8:30 AM	3	3	0	0	2	1	1	31	0	2	34	1	78
	8:45 AM	0	3	0	0	1	2	7	24	1	1	34	0	72
	VOLUMES	17	21	10	13	22	38	20	248	10	14	353	12	775
	APPROACH %	36%	44%	20%	18%	30%	52%	7%	89%	4%	4%	93%	3%	
APP/DEPART	47	/	53	73	/	46	278	/	270	378	/	407	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	7	6	8	5	9	20	4	85	5	6	133	7	295	
APPROACH %	33%	29%	38%	15%	26%	59%	4%	90%	5%	4%	91%	5%		
PEAK HR FACTOR	0.618			0.708			0.825			0.869			0.958	
APP/DEPART	21	/	17	34	/	20	94	/	98	146	/	160	0	
<b>PM</b>	03:00 PM	9	1	1	2	8	2	5	61	1	5	53	2	149
	3:15 PM	0	2	3	4	3	5	3	52	4	8	55	6	144
	3:30 PM	4	2	3	3	5	7	3	66	4	0	46	6	147
	3:45 PM	0	1	1	4	3	5	3	69	1	4	58	7	155
	4:00 PM	7	2	3	1	4	3	6	61	4	0	70	2	161
	4:15 PM	4	2	4	0	7	5	1	60	4	1	35	0	121
	4:30 PM	1	2	0	2	4	7	6	83	1	0	45	1	150
	4:45 PM	1	3	0	0	5	6	5	74	6	2	65	7	172
	5:00 PM	2	2	2	3	3	2	5	61	1	0	47	3	129
	5:15 PM	2	4	1	1	1	3	6	65	2	1	62	4	151
	5:30 PM	0	1	1	3	5	2	4	54	1	2	40	5	118
	5:45 PM	0	3	0	2	3	4	9	70	4	0	48	3	145
	VOLUMES	30	24	18	24	50	49	54	773	31	23	621	45	1,740
	APPROACH %	42%	33%	25%	20%	41%	40%	6%	90%	4%	3%	90%	6%	
APP/DEPART	71	/	122	123	/	104	858	/	815	689	/	700	0	
BEGIN PEAK HR	3:15 PM													
VOLUMES	11	7	10	12	15	19	15	247	12	12	229	20	607	
APPROACH %	38%	25%	36%	25%	33%	42%	5%	90%	4%	5%	88%	8%		
PEAK HR FACTOR	0.598			0.784			0.943			0.911			0.943	
APP/DEPART	28	/	42	46	/	39	274	/	269	261	/	258	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Maple  
Jurupa

**PROJECT #:** SC2668  
**LOCATION #:** 9  
**CONTROL:** STOP S

PCE Adjusted	<b>NOTES:</b>						AM	PM	MD	OTHER	OTHER	▲ N	◀ W	S	▶ E	▼
	Class	1	2	3	4	5										
	Factor	1	1.5	2	3	2										

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	Maple			Maple			Jurupa			Jurupa				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		
	X	X	X	0	X	0	0	1	X	0	X	1	0	

AM														TOTAL
	0	0	0	2	0	0	1	9	0	0	15	0		
6:00 AM	0	0	0	2	0	0	1	9	0	0	15	0	27	
6:15 AM	0	0	0	1	0	1	0	2	0	0	8	2	14	
6:30 AM	0	0	0	1	0	1	1	5	0	0	14	0	22	
6:45 AM	0	0	0	9	0	0	0	19	0	0	21	1	50	
7:00 AM	0	0	0	5	0	0	0	7	0	0	15	2	29	
7:15 AM	0	0	0	5	0	1	1	13	0	0	11	1	31	
7:30 AM	0	0	0	2	0	2	0	9	0	0	13	1	27	
7:45 AM	0	0	0	1	0	2	3	13	0	0	15	1	35	
8:00 AM	0	0	0	3	0	2	1	13	0	0	9	0	28	
8:15 AM	0	0	0	1	0	1	0	17	0	0	20	0	38	
8:30 AM	0	0	0	0	0	1	1	7	0	0	13	1	23	
8:45 AM	0	0	0	1	0	0	2	10	0	0	17	1	31	
VOLUMES	0	0	0	30	0	11	10	123	0	0	169	10	352	
APPROACH %	0%	0%	0%	73%	0%	27%	8%	92%	0%	0%	94%	6%		
APP/DEPART	0	/	20	41	/	0	133	/	153	179	/	180	0	
BEGIN PEAK HR	6:45 AM													
VOLUMES	0	0	0	21	0	3	1	47	0	0	59	5	136	
APPROACH %	0%	0%	0%	87%	0%	13%	2%	98%	0%	0%	92%	8%		
PEAK HR FACTOR	0.000			0.653			0.649			0.727			0.684	
APP/DEPART	0	/	6	24	/	0	48	/	68	64	/	62	0	
03:00 PM	0	0	0	5	0	2	6	24	0	0	15	4	55	
3:15 PM	0	0	0	3	0	1	2	32	0	0	14	5	56	
3:30 PM	0	0	0	8	0	3	0	22	0	0	32	1	66	
3:45 PM	0	0	0	3	0	3	2	28	0	0	8	3	46	
4:00 PM	0	0	0	6	0	2	1	31	0	0	18	5	62	
4:15 PM	0	0	0	5	0	2	4	40	0	0	11	5	66	
4:30 PM	0	0	0	3	0	0	1	62	0	0	22	0	88	
4:45 PM	0	0	0	5	0	3	3	45	0	0	26	1	83	
5:00 PM	0	0	0	3	0	1	1	39	0	0	15	7	65	
5:15 PM	0	0	0	1	0	3	4	48	0	0	23	1	80	
5:30 PM	0	0	0	4	0	1	2	27	0	0	17	5	55	
5:45 PM	0	0	0	5	0	1	0	29	0	0	17	3	55	
VOLUMES	0	0	0	51	0	22	26	423	0	0	216	38	775	
APPROACH %	0%	0%	0%	70%	0%	30%	6%	94%	0%	0%	85%	15%		
APP/DEPART	0	/	63	73	/	0	449	/	474	253	/	238	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	0	0	0	12	0	7	9	193	0	0	85	9	315	
APPROACH %	0%	0%	0%	63%	0%	37%	4%	96%	0%	0%	91%	9%		
PEAK HR FACTOR	0.000			0.594			0.802			0.866			0.899	
APP/DEPART	0	/	18	19	/	0	202	/	205	94	/	92	0	
PM														



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Linden  
Jurupa

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
10  
STOP ALL

PCE Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	◀ W	▲ N S ▼	E ▶
	<b>Class</b>	1	2	3	4	5	6	7	8	9				
	<b>Factor</b>	1	1.5	2	3	2	2	3	4	5				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Linden			Linden			Jurupa			Jurupa			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	1	1	0	1	1	

<b>AM</b>	6:00 AM	1	5	0	2	3	0	0	11	0	0	14	1	37
	6:15 AM	0	7	3	5	2	3	1	2	0	1	6	0	30
	6:30 AM	0	9	0	3	3	1	0	6	1	0	15	8	46
	6:45 AM	1	9	2	2	0	9	0	25	2	0	13	1	64
	7:00 AM	1	7	1	5	5	0	0	10	2	1	12	3	47
	7:15 AM	2	5	1	1	6	0	1	15	0	1	10	1	43
	7:30 AM	1	4	1	1	2	2	0	8	1	1	11	1	33
	7:45 AM	2	7	1	0	5	2	1	11	2	0	14	4	49
	8:00 AM	0	6	2	3	5	0	1	17	0	2	12	3	50
	8:15 AM	1	7	0	2	2	0	0	15	1	4	18	3	52
	8:30 AM	0	9	2	4	2	2	1	8	0	1	14	5	47
	8:45 AM	0	5	0	2	0	0	3	6	1	2	13	4	36
	VOLUMES	9	80	13	30	35	19	8	132	10	13	150	34	532
	APPROACH %	9%	78%	13%	36%	42%	23%	5%	88%	7%	6%	77%	17%	
APP/DEPART	102	/	121	84	/	58	150	/	175	196	/	178	0	
BEGIN PEAK HR	6:30 AM													
VOLUMES	4	30	4	11	14	10	1	56	5	2	50	13	199	
APPROACH %	11%	79%	11%	31%	40%	29%	2%	90%	8%	3%	77%	20%		
PEAK HR FACTOR	0.781			0.795			0.580			0.707			0.783	
APP/DEPART	38	/	44	35	/	21	62	/	71	65	/	64	0	
<b>PM</b>	03:00 PM	2	9	3	6	11	0	4	26	3	5	16	9	92
	3:15 PM	1	10	5	5	15	1	2	31	2	1	20	13	105
	3:30 PM	3	7	1	6	11	3	1	27	4	4	28	8	102
	3:45 PM	5	10	1	10	13	1	4	27	2	3	9	10	94
	4:00 PM	0	6	1	10	7	0	4	24	7	3	19	7	87
	4:15 PM	2	9	2	11	13	3	9	30	4	4	10	5	101
	4:30 PM	1	4	5	13	11	1	12	51	1	0	22	5	124
	4:45 PM	2	8	0	9	13	5	6	41	4	3	22	17	129
	5:00 PM	3	8	2	7	12	3	7	37	4	1	21	18	121
	5:15 PM	6	9	3	6	10	5	3	37	9	3	21	8	120
	5:30 PM	6	9	2	14	13	0	8	20	5	4	15	4	99
	5:45 PM	2	14	1	7	15	2	1	33	0	5	18	7	104
	VOLUMES	33	102	26	102	143	23	60	381	45	35	218	110	1,275
	APPROACH %	21%	64%	16%	38%	53%	9%	12%	79%	9%	10%	60%	30%	
APP/DEPART	161	/	272	267	/	222	485	/	508	363	/	274	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	12	29	10	35	46	14	27	166	18	7	85	48	493	
APPROACH %	24%	57%	19%	37%	49%	14%	13%	79%	9%	5%	61%	34%		
PEAK HR FACTOR	0.694			0.887			0.833			0.827			0.955	
APP/DEPART	50	/	103	94	/	71	210	/	210	139	/	110	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

<b>DATE:</b> 9/29/20 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Bloomington Cedar I-10 WB Ramps	PROJECT #: LOCATION #: CONTROL:	SC2668 11 SIGNAL
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PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cedar			Cedar			I-10 WB Ramps			I-10 WB Ramps			
	NL 1	NT 2	NR X	SL X	ST 3	SR 1	EL X	ET X	ER X	WL 0.3	WT 0.3	WR 1,3	

<b>AM</b>	6:00 AM	78	163	0	0	185	167	0	0	0	39	0	43	674
	6:15 AM	74	162	0	0	187	209	0	0	0	47	0	64	742
	6:30 AM	75	195	0	0	257	225	0	0	0	64	0	80	894
	6:45 AM	90	237	0	0	231	185	0	0	0	66	3	89	900
	7:00 AM	71	203	0	0	187	175	0	0	0	47	0	77	758
	7:15 AM	75	225	0	0	209	210	0	0	0	57	0	78	853
	7:30 AM	79	229	0	0	237	232	0	0	0	54	0	77	907
	7:45 AM	72	212	0	0	249	176	0	0	0	92	3	119	921
	8:00 AM	64	233	0	0	255	167	0	0	0	61	1	104	883
	8:15 AM	97	228	0	0	216	163	0	0	0	47	0	73	822
	8:30 AM	92	216	0	0	203	183	0	0	0	41	0	78	811
	8:45 AM	58	277	0	0	182	134	0	0	0	53	0	80	782
	VOLUMES	921	2,577	0	0	2,595	2,223	0	0	0	665	7	959	9,946
	APPROACH %	26%	74%	0%	0%	54%	46%	0%	0%	0%	41%	0%	59%	
APP/DEPART	3,498	/	3,536	4,818	/	3,260	0	/	0	1,631	/	3,151	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	289	898	0	0	950	785	0	0	0	263	4	377	3,564	
APPROACH %	24%	76%	0%	0%	55%	45%	0%	0%	0%	41%	1%	59%		
PEAK HR FACTOR	0.963													
APP/DEPART	1,187	/	1,275	1,734	/	1,212	0	/	0	643	/	1,077	0	
<b>PM</b>	03:00 PM	68	243	0	0	211	118	0	0	0	72	1	115	827
	3:15 PM	60	340	0	0	243	140	0	0	0	98	0	132	1,012
	3:30 PM	88	296	0	0	248	159	0	0	0	79	3	119	990
	3:45 PM	68	324	0	0	284	120	0	0	0	76	1	135	1,007
	4:00 PM	78	290	0	0	225	157	0	0	0	84	0	122	954
	4:15 PM	70	327	0	0	312	148	0	0	0	80	1	145	1,081
	4:30 PM	81	293	0	0	256	154	0	0	0	66	0	127	977
	4:45 PM	70	304	0	0	281	136	0	0	0	68	0	143	1,001
	5:00 PM	68	341	0	0	253	128	0	0	0	57	1	85	932
	5:15 PM	65	336	0	0	302	142	0	0	0	59	1	127	1,030
	5:30 PM	94	297	0	0	231	126	0	0	0	65	0	125	937
	5:45 PM	46	355	0	0	307	165	0	0	0	86	0	133	1,091
	VOLUMES	853	3,744	0	0	3,150	1,692	0	0	0	886	8	1,504	11,836
	APPROACH %	19%	81%	0%	0%	65%	35%	0%	0%	0%	37%	0%	63%	
APP/DEPART	4,597	/	5,248	4,842	/	4,036	0	/	0	2,398	/	2,552	0	
BEGIN PEAK HR	3:30 PM													
VOLUMES	303	1,237	0	0	1,068	584	0	0	0	317	5	519	4,031	
APPROACH %	20%	80%	0%	0%	65%	35%	0%	0%	0%	38%	1%	62%		
PEAK HR FACTOR	0.970													
APP/DEPART	1,539	/	1,756	1,652	/	1,385	0	/	0	841	/	891	0	



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Cedar  
Orange

**PROJECT #:** SC2668  
**LOCATION #:** 13  
**CONTROL:** SIGNAL

PCE Adjusted	<b>NOTES:</b>						AM PM MD OTHER OTHER	◀ W	▲ N ▼ S	E ▶
	Class	1	2	3	4	5				
	Factor	1	1.5	2	3	2	2			

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cedar			Cedar			Orange			Orange			
	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 0.5	ER 0.5	WL 0	WT 1	WR 0	

AM	6:00 AM	1	208	3	17	181	19	8	0	7	0	0	10	452
		6:15 AM	0	143	0	13	195	23	14	1	1	0	0	15
	6:30 AM	3	286	0	13	257	22	27	1	3	1	2	12	626
	6:45 AM	1	237	2	22	226	41	15	0	6	0	0	12	559
	7:00 AM	0	213	1	12	202	25	23	1	5	0	0	16	496
	7:15 AM	2	241	0	16	225	28	15	0	4	0	0	22	551
	7:30 AM	1	249	1	15	227	33	25	0	9	0	0	24	583
	7:45 AM	1	223	1	16	269	51	15	0	11	0	0	20	606
	8:00 AM	0	222	1	16	238	36	17	0	1	0	0	12	542
	8:15 AM	0	229	3	23	172	39	30	1	3	1	0	15	514
	8:30 AM	0	235	0	7	200	30	21	0	2	0	0	10	503
	8:45 AM	5	203	3	9	157	33	27	0	5	0	1	19	461
	VOLUMES	14	2,685	14	176	2,546	376	236	4	56	2	3	183	6,293
	APPROACH %	0%	99%	0%	6%	82%	12%	80%	1%	19%	1%	2%	97%	
	APP/DEPART	2,712	/	3,103	3,098	/	2,604	296	/	193	188	/	393	0
	BEGIN PEAK HR	7:15 AM												
	VOLUMES	4	934	3	62	959	147	72	0	25	0	0	77	2,281
	APPROACH %	0%	99%	0%	5%	82%	13%	74%	0%	26%	0%	0%	100%	
	PEAK HR FACTOR	0.939			0.870			0.710			0.814			0.942
	APP/DEPART	941	/	1,082	1,168	/	984	97	/	65	77	/	151	0
PM	03:00 PM	2	309	0	12	188	41	36	1	5	0	1	31	624
	3:15 PM	2	328	2	11	220	50	28	0	3	1	0	24	668
	3:30 PM	0	318	0	17	225	50	48	1	3	0	0	29	690
	3:45 PM	0	274	1	8	234	53	48	3	1	1	2	26	651
	4:00 PM	1	311	0	6	251	51	32	0	4	0	0	30	685
	4:15 PM	0	305	1	5	260	61	35	0	7	0	0	24	696
	4:30 PM	0	297	0	16	238	44	43	0	3	0	1	27	668
	4:45 PM	2	316	0	17	223	48	33	1	5	1	0	17	661
	5:00 PM	6	298	0	15	231	50	46	1	5	1	0	23	676
	5:15 PM	2	260	2	18	236	41	44	0	5	0	0	21	628
	5:30 PM	3	285	2	10	224	51	40	0	3	0	0	16	633
	5:45 PM	0	259	0	10	263	50	25	0	0	0	0	26	632
	VOLUMES	18	3,558	8	144	2,790	588	454	7	43	4	4	292	7,909
	APPROACH %	1%	99%	0%	4%	79%	17%	90%	1%	9%	1%	1%	97%	
	APP/DEPART	3,584	/	4,304	3,521	/	2,837	504	/	159	300	/	610	0
	BEGIN PEAK HR	3:30 PM												
	VOLUMES	1	1,208	2	36	969	214	162	4	15	1	2	108	2,721
	APPROACH %	0%	100%	0%	3%	80%	18%	90%	2%	8%	1%	2%	97%	
	PEAK HR FACTOR	0.952			0.937			0.868			0.941			0.978
	APP/DEPART	1,211	/	1,478	1,219	/	985	181	/	42	111	/	217	0

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Cedar  
Slover

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
14  
SIGNAL

PCE Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
	Class	1	2	3	4	5	6	7	8	9			
	Factor	1	1.5	2	3	2	2	2	2	2			

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cedar			Cedar			Slover			Slover			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	1	2	0	1	1.5	0.5	

<b>AM</b>	6:00 AM	25	135	0	37	146	34	38	26	7	0	17	29	492
	6:15 AM	17	139	0	29	123	16	39	21	7	3	26	33	451
	6:30 AM	15	110	1	19	164	22	26	11	12	2	20	23	423
	6:45 AM	13	208	2	25	190	19	30	21	11	4	17	44	582
	7:00 AM	21	164	1	35	175	26	32	22	6	1	16	37	534
	7:15 AM	10	162	3	36	147	17	30	29	6	0	26	17	479
	7:30 AM	14	178	4	42	173	16	31	11	11	0	20	25	522
	7:45 AM	19	167	0	36	193	14	41	17	10	2	28	46	571
	8:00 AM	30	169	3	46	192	41	27	18	14	1	22	32	593
	8:15 AM	15	149	2	32	189	28	33	14	9	5	21	43	537
	8:30 AM	16	146	1	26	122	17	32	30	7	0	18	47	460
	8:45 AM	7	163	7	31	126	17	40	16	9	13	27	42	497
	VOLUMES	198	1,887	24	392	1,937	264	397	232	106	30	257	417	6,137
	APPROACH %	9%	89%	1%	15%	75%	10%	54%	32%	14%	4%	37%	59%	
APP/DEPART	2,109	/	2,701	2,592	/	2,072	735	/	648	703	/	718	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	77	662	9	155	746	98	131	59	42	8	91	146	2,221	
APPROACH %	10%	89%	1%	16%	75%	10%	57%	25%	18%	3%	37%	60%		
PEAK HR FACTOR	0.929			0.896			0.864			0.808			0.937	
APP/DEPART	747	/	939	999	/	796	232	/	223	244	/	265	0	
<b>PM</b>	03:00 PM	17	178	3	38	181	19	49	58	22	4	36	35	638
	3:15 PM	15	204	4	19	170	16	72	46	25	7	42	44	662
	3:30 PM	27	199	3	25	165	20	64	61	31	5	40	45	683
	3:45 PM	16	209	3	27	179	23	58	47	31	7	28	53	679
	4:00 PM	35	175	10	29	179	21	71	75	36	2	42	38	711
	4:15 PM	12	234	9	29	191	25	57	80	27	13	40	33	748
	4:30 PM	19	181	7	31	195	32	75	57	29	2	40	34	698
	4:45 PM	18	195	2	42	182	27	58	70	23	4	27	47	693
	5:00 PM	27	210	7	31	167	16	61	76	35	4	42	43	717
	5:15 PM	9	197	7	30	200	17	71	80	29	2	27	35	703
	5:30 PM	19	169	11	35	172	23	66	77	29	3	46	24	672
	5:45 PM	14	209	7	29	194	21	68	47	24	10	36	22	679
	VOLUMES	226	2,359	72	363	2,173	257	766	770	339	63	444	450	8,280
	APPROACH %	9%	89%	3%	13%	78%	9%	41%	41%	18%	7%	46%	47%	
APP/DEPART	2,656	/	3,575	2,793	/	2,574	1,875	/	1,205	956	/	927	0	
BEGIN PEAK HR	4:15 PM													
VOLUMES	75	820	24	132	735	99	251	282	114	23	148	155	2,855	
APPROACH %	8%	89%	3%	14%	76%	10%	39%	44%	18%	7%	45%	48%		
PEAK HR FACTOR	0.902			0.939			0.938			0.923			0.955	
APP/DEPART	919	/	1,225	966	/	871	646	/	438	325	/	322	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Cedar  
Santa Ana

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
15  
SIGNAL

PCE Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	<b>Class</b>	1	2	3	4	5	6	7	8	9				
	<b>Factor</b>	1	1.5	2	3	2	2	2	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cedar			Cedar			Santa Ana			Santa Ana			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	0	1	0	0	1	0	

<b>AM</b>	6:00 AM	3	141	1	3	119	12	5	10	9	8	12	2	324
	6:15 AM	7	119	4	10	153	13	2	10	12	5	7	4	344
	6:30 AM	9	178	2	7	151	13	9	9	14	1	13	10	413
	6:45 AM	12	160	4	15	197	9	6	8	7	4	11	2	433
	7:00 AM	7	167	2	4	139	10	6	9	9	3	10	19	384
	7:15 AM	10	160	5	5	150	13	9	4	8	4	15	10	390
	7:30 AM	20	146	7	6	171	10	11	9	7	1	6	9	402
	7:45 AM	15	162	2	11	176	11	11	9	13	2	11	7	428
	8:00 AM	9	138	0	27	179	8	18	12	10	1	19	4	423
	8:15 AM	17	137	0	12	126	11	8	4	7	4	14	13	351
	8:30 AM	17	151	8	12	112	12	10	13	9	7	14	4	367
	8:45 AM	9	125	0	8	106	6	2	7	10	4	13	6	294
	VOLUMES	133	1,781	35	119	1,777	126	95	103	112	42	143	87	4,551
	APPROACH %	7%	91%	2%	6%	88%	6%	31%	33%	36%	15%	53%	32%	
APP/DEPART	1,949	/	1,963	2,021	/	1,931	310	/	256	272	/	402	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	54	605	14	48	675	41	49	34	37	8	50	30	1,643	
APPROACH %	8%	90%	2%	6%	88%	5%	41%	28%	31%	9%	57%	34%		
PEAK HR FACTOR	0.939													
APP/DEPART	673	/	683	764	/	720	119	/	96	88	/	145	0	
<b>PM</b>	03:00 PM	33	176	9	6	169	7	14	24	25	4	20	8	493
	3:15 PM	24	217	11	13	176	14	16	28	18	6	33	16	569
	3:30 PM	20	201	2	15	156	10	24	34	26	7	19	12	523
	3:45 PM	22	252	6	20	206	12	14	28	26	5	20	10	619
	4:00 PM	36	182	11	23	160	8	16	35	16	6	32	14	536
	4:15 PM	23	171	7	23	211	10	9	26	21	2	22	6	528
	4:30 PM	16	191	12	13	144	6	17	26	17	7	20	11	479
	4:45 PM	30	221	11	17	185	12	25	30	24	7	27	7	593
	5:00 PM	23	165	5	13	166	10	13	35	17	0	22	11	478
	5:15 PM	19	190	2	15	199	16	16	35	19	7	22	15	552
	5:30 PM	22	183	5	13	169	13	21	23	16	6	23	8	501
	5:45 PM	16	184	6	12	208	8	24	22	26	4	23	13	542
	VOLUMES	281	2,328	86	181	2,146	124	207	344	248	61	279	129	6,411
	APPROACH %	10%	86%	3%	7%	88%	5%	26%	43%	31%	13%	60%	27%	
APP/DEPART	2,695	/	2,663	2,450	/	2,454	798	/	610	468	/	684	0	
BEGIN PEAK HR	3:15 PM													
VOLUMES	101	851	30	70	697	44	69	124	85	24	103	51	2,246	
APPROACH %	10%	87%	3%	9%	86%	5%	25%	45%	31%	13%	58%	29%		
PEAK HR FACTOR	0.879													
APP/DEPART	981	/	971	810	/	805	278	/	224	177	/	247	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Cedar  
Jurupa

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
16  
SIGNAL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cedar			Cedar			Jurupa			Jurupa			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	0	1	0	0	1	0	

<b>AM</b>	6:00 AM	2	122	2	9	121	2	6	8	3	4	10	12	300
	6:15 AM	3	115	3	4	157	6	2	3	2	4	3	7	308
	6:30 AM	5	168	3	12	154	7	10	3	7	9	8	7	393
	6:45 AM	3	145	8	7	150	4	14	5	11	13	7	18	382
	7:00 AM	5	147	4	12	119	1	8	4	7	6	8	10	331
	7:15 AM	3	152	3	13	150	4	8	5	5	5	6	7	358
	7:30 AM	1	146	8	15	171	2	13	9	1	8	9	6	387
	7:45 AM	5	162	9	27	161	7	8	6	4	4	5	13	410
	8:00 AM	3	119	5	18	148	5	11	7	8	7	10	13	351
	8:15 AM	9	139	5	15	119	5	7	12	4	6	10	14	342
	8:30 AM	5	145	9	16	115	13	5	13	3	2	6	13	342
	8:45 AM	4	107	7	17	94	5	4	9	4	14	10	12	286
	VOLUMES	47	1,664	64	163	1,656	61	95	83	58	80	90	130	4,188
	APPROACH %	3%	94%	4%	9%	88%	3%	40%	35%	24%	27%	30%	43%	
APP/DEPART	1,775	/	1,889	1,879	/	1,793	235	/	309	300	/	198	0	
BEGIN PEAK HR	7:15 AM													
VOLUMES	12	578	25	72	629	18	40	27	17	24	29	38	1,506	
APPROACH %	2%	94%	4%	10%	88%	3%	48%	32%	20%	26%	32%	42%		
PEAK HR FACTOR	0.874			0.923			0.819			0.767			0.919	
APP/DEPART	614	/	656	718	/	669	84	/	123	91	/	59	0	
<b>PM</b>	03:00 PM	18	194	12	32	177	15	9	22	11	13	8	18	527
	3:15 PM	12	185	7	21	166	12	7	25	10	8	10	18	480
	3:30 PM	15	220	11	22	187	10	6	24	11	12	17	17	550
	3:45 PM	9	226	4	19	184	6	15	11	12	9	10	17	520
	4:00 PM	14	220	18	22	164	11	13	19	11	7	9	12	517
	4:15 PM	11	152	17	26	191	3	11	21	9	3	5	8	456
	4:30 PM	16	201	17	17	150	6	27	38	9	10	13	11	514
	4:45 PM	11	224	6	31	168	10	7	32	12	9	20	16	544
	5:00 PM	13	167	6	14	180	17	11	23	14	6	13	18	481
	5:15 PM	8	171	14	18	178	13	19	25	5	10	9	6	474
	5:30 PM	9	184	13	20	177	5	12	23	11	9	12	15	487
	5:45 PM	9	172	13	25	187	11	16	22	4	7	14	7	485
	VOLUMES	142	2,314	135	263	2,106	119	152	284	118	102	138	161	6,031
	APPROACH %	5%	89%	5%	11%	85%	5%	27%	51%	21%	25%	34%	40%	
APP/DEPART	2,591	/	2,627	2,487	/	2,325	553	/	681	401	/	398	0	
BEGIN PEAK HR	3:00 PM													
VOLUMES	53	824	34	93	714	43	36	82	43	42	45	70	2,076	
APPROACH %	6%	90%	4%	11%	84%	5%	22%	51%	26%	27%	29%	45%		
PEAK HR FACTOR	0.929			0.950			0.967			0.857			0.944	
APP/DEPART	911	/	930	849	/	798	161	/	208	156	/	141	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Cedar  
11th

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
17  
SIGNAL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cedar			Cedar			11th			11th			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	0	1	0	0	1	0	

<b>AM</b>	6:00 AM	3	106	0	4	114	3	6	3	8	3	1	6	255
	6:15 AM	9	110	3	6	160	8	9	1	6	3	3	1	317
	6:30 AM	4	148	0	5	142	2	16	1	9	10	7	10	352
	6:45 AM	4	133	0	9	171	6	10	3	8	8	6	3	359
	7:00 AM	2	135	0	2	128	4	16	7	6	6	6	4	314
	7:15 AM	5	145	1	5	159	2	16	4	6	6	4	2	355
	7:30 AM	5	145	0	4	157	7	15	5	1	3	1	2	343
	7:45 AM	6	161	0	4	181	2	14	7	7	2	2	6	391
	8:00 AM	1	100	3	2	148	4	10	3	7	0	2	6	285
	8:15 AM	9	139	0	4	117	2	9	3	5	6	4	0	296
	8:30 AM	5	136	2	7	106	8	10	2	3	2	2	4	287
	8:45 AM	5	110	0	4	102	7	5	2	9	2	3	2	251
	VOLUMES	57	1,565	9	54	1,682	54	136	40	74	49	39	45	3,803
	APPROACH %	3%	96%	1%	3%	94%	3%	54%	16%	30%	37%	29%	34%	
APP/DEPART	1,631	/	1,746	1,790	/	1,805	249	/	103	133	/	150	0	
BEGIN PEAK HR	7:00 AM													
VOLUMES	18	585	1	15	624	15	61	23	20	16	13	14	1,402	
APPROACH %	3%	97%	0%	2%	96%	2%	59%	22%	19%	38%	29%	33%		
PEAK HR FACTOR	0.906													
APP/DEPART	604	/	660	653	/	660	103	/	38	43	/	45	0	
<b>PM</b>	03:00 PM	14	180	1	8	173	15	18	5	9	2	1	6	431
	3:15 PM	13	186	2	6	161	5	14	3	7	5	1	8	411
	3:30 PM	8	215	3	9	164	9	12	8	9	2	3	3	444
	3:45 PM	14	236	3	9	194	7	9	9	7	4	7	2	500
	4:00 PM	12	227	0	12	185	5	23	2	8	6	8	1	487
	4:15 PM	4	158	2	13	189	5	14	4	9	3	3	2	404
	4:30 PM	10	204	1	12	141	2	15	7	6	4	5	4	410
	4:45 PM	15	216	1	12	192	12	15	11	5	3	9	6	496
	5:00 PM	10	169	3	8	185	3	13	5	12	4	5	8	424
	5:15 PM	14	175	1	11	178	5	15	3	7	0	2	6	416
	5:30 PM	18	181	0	13	161	12	11	16	4	3	10	6	433
	5:45 PM	14	169	2	19	169	8	17	5	7	5	8	3	425
	VOLUMES	145	2,314	19	131	2,090	85	174	77	88	41	62	55	5,278
	APPROACH %	6%	93%	1%	6%	91%	4%	51%	23%	26%	26%	39%	35%	
APP/DEPART	2,477	/	2,542	2,306	/	2,218	339	/	227	157	/	292	0	
BEGIN PEAK HR	3:15 PM													
VOLUMES	47	863	8	36	704	25	58	22	30	17	19	14	1,841	
APPROACH %	5%	94%	1%	5%	92%	3%	53%	20%	27%	33%	38%	28%		
PEAK HR FACTOR	0.907													
APP/DEPART	918	/	935	764	/	750	110	/	65	50	/	91	0	



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Cedar  
7th

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
18  
SIGNAL

PCE Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6	7	8	9				
	Factor	1	1.5	2	3	2	2	3	4	5				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cedar			Cedar			7th			7th			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	0	1	0	0	1	0	

<b>AM</b>	6:00 AM	9	109	0	2	117	4	5	2	6	2	3	0	259
	6:15 AM	9	109	1	2	162	2	4	0	10	8	4	2	312
	6:30 AM	10	155	0	2	160	3	6	1	13	7	1	4	361
	6:45 AM	7	118	4	2	181	5	4	3	22	12	4	1	362
	7:00 AM	4	121	0	4	137	7	9	3	7	6	1	1	299
	7:15 AM	9	132	2	3	149	3	8	2	17	9	3	3	338
	7:30 AM	7	140	0	5	141	5	8	0	22	4	1	0	332
	7:45 AM	6	132	4	9	168	3	11	4	24	2	4	6	371
	8:00 AM	14	92	4	14	143	2	8	2	13	2	1	2	296
	8:15 AM	7	135	1	10	110	7	12	0	11	2	3	3	300
	8:30 AM	8	130	2	5	119	1	6	1	12	4	4	5	295
	8:45 AM	11	104	0	9	87	6	8	1	8	8	3	5	250
	VOLUMES	99	1,473	17	67	1,673	47	88	19	164	64	32	32	3,773
	APPROACH %	6%	93%	1%	4%	94%	3%	33%	7%	60%	50%	25%	25%	
APP/DEPART	1,588	/	1,593	1,787	/	1,901	271	/	103	127	/	177	0	
BEGIN PEAK HR	6:30 AM													
VOLUMES	30	525	6	11	627	18	27	9	58	33	9	9	1,359	
APPROACH %	5%	94%	1%	2%	96%	3%	28%	10%	62%	65%	17%	18%		
PEAK HR FACTOR	0.854													
APP/DEPART	560	/	561	655	/	718	94	/	26	51	/	56	0	
<b>PM</b>	03:00 PM	19	176	2	9	177	3	9	10	33	7	5	7	456
	3:15 PM	27	177	2	12	157	6	10	10	35	8	3	4	449
	3:30 PM	30	211	4	13	158	7	10	9	35	7	7	8	497
	3:45 PM	17	220	0	9	181	1	8	2	59	7	2	3	508
	4:00 PM	35	223	8	9	175	6	12	4	67	2	3	3	545
	4:15 PM	26	147	2	12	173	3	14	8	66	11	2	3	466
	4:30 PM	19	186	3	18	175	3	7	6	70	7	2	7	502
	4:45 PM	12	211	2	10	158	3	20	6	57	9	0	5	492
	5:00 PM	26	166	1	15	180	4	11	9	37	7	3	5	462
	5:15 PM	23	172	3	15	168	4	8	11	45	11	6	8	472
	5:30 PM	25	185	6	12	143	6	9	7	50	7	4	8	461
	5:45 PM	22	148	5	13	150	9	18	2	32	11	5	6	418
	VOLUMES	278	2,219	37	145	1,991	55	134	82	583	93	42	66	5,724
	APPROACH %	11%	88%	1%	7%	91%	3%	17%	10%	73%	46%	21%	33%	
APP/DEPART	2,534	/	2,419	2,191	/	2,667	799	/	264	201	/	375	0	
BEGIN PEAK HR	3:45 PM													
VOLUMES	96	775	13	48	703	13	41	20	261	27	9	16	2,020	
APPROACH %	11%	88%	1%	6%	92%	2%	13%	6%	81%	52%	17%	30%		
PEAK HR FACTOR	0.835													
APP/DEPART	884	/	832	763	/	991	322	/	80	52	/	118	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Cedar  
El Rivino

**PROJECT #:** SC2668  
**LOCATION #:** 19  
**CONTROL:** SIGNAL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cedar			Cedar			El Rivino			El Rivino			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	0	1	2	0	0	1	0	0.5	0.5	1	

<b>AM</b>	6:00 AM	0	104	22	13	123	0	3	1	1	5	0	12	283
	6:15 AM	1	110	17	22	162	0	2	0	5	21	0	10	348
	6:30 AM	0	140	16	25	154	0	1	0	1	28	0	9	372
	6:45 AM	1	122	33	32	184	2	1	0	1	32	0	5	412
	7:00 AM	1	118	11	22	125	2	2	0	0	30	1	12	323
	7:15 AM	0	100	13	19	162	0	5	0	3	13	0	17	331
	7:30 AM	0	96	28	22	151	1	4	0	1	36	2	44	382
	7:45 AM	2	130	32	32	168	1	1	0	2	24	0	14	404
	8:00 AM	0	97	29	17	145	1	2	0	4	22	0	13	329
	8:15 AM	1	132	26	12	105	1	1	0	1	17	0	10	305
	8:30 AM	2	117	24	7	111	4	2	1	6	25	0	15	313
	8:45 AM	1	110	15	12	100	1	4	0	5	36	0	10	293
	VOLUMES	9	1,372	264	233	1,688	13	28	2	30	286	3	167	4,092
	APPROACH %	1%	83%	16%	12%	87%	1%	47%	3%	50%	63%	1%	37%	
APP/DEPART	1,644	/	1,566	1,934	/	2,004	59	/	498	456	/	25	0	
BEGIN PEAK HR	6:15 AM													
VOLUMES	3	489	76	100	625	4	6	0	7	110	1	35	1,454	
APPROACH %	1%	86%	13%	14%	86%	1%	46%	0%	54%	76%	1%	24%		
PEAK HR FACTOR	0.915			0.837			0.464			0.863			0.883	
APP/DEPART	567	/	529	729	/	741	13	/	176	145	/	8	0	
<b>PM</b>	03:00 PM	2	158	19	22	188	3	1	1	2	33	2	29	459
	3:15 PM	3	178	29	23	176	5	4	0	1	17	0	23	457
	3:30 PM	3	217	40	44	135	2	7	2	3	76	5	77	609
	3:45 PM	4	167	31	41	195	3	0	1	0	41	0	44	526
	4:00 PM	1	233	20	25	201	2	2	3	2	51	1	29	567
	4:15 PM	1	138	23	32	228	1	3	1	0	34	2	17	479
	4:30 PM	2	193	21	38	178	2	2	0	3	23	0	17	477
	4:45 PM	6	198	27	34	197	3	4	2	1	22	2	25	518
	5:00 PM	3	163	27	33	186	6	1	1	0	23	2	32	475
	5:15 PM	3	164	23	28	173	5	3	1	4	35	1	20	459
	5:30 PM	0	180	33	14	166	4	3	3	2	24	1	25	455
	5:45 PM	6	159	26	10	178	6	10	0	5	33	0	15	447
	VOLUMES	33	2,144	317	341	2,198	42	39	15	23	408	16	351	5,925
	APPROACH %	1%	86%	13%	13%	85%	2%	51%	19%	30%	53%	2%	45%	
APP/DEPART	2,494	/	2,534	2,580	/	2,629	77	/	672	775	/	90	0	
BEGIN PEAK HR	3:30 PM													
VOLUMES	9	754	114	141	758	8	12	7	5	201	8	166	2,180	
APPROACH %	1%	86%	13%	15%	84%	1%	50%	28%	22%	54%	2%	44%		
PEAK HR FACTOR	0.844			0.870			0.500			0.593			0.895	
APP/DEPART	876	/	932	907	/	964	23	/	261	375	/	25	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Rubidoux  
Market

**PROJECT #:** SC2668  
**LOCATION #:** 20  
**CONTROL:** SIGNAL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Rubidoux			Rubidoux			Market			Market			
	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 1	ER 0	WL 0	WT 1	WR 1	

<b>AM</b>	6:00 AM	11	43	40	76	52	5	11	24	20	49	39	62	429
	6:15 AM	3	44	40	96	87	7	12	16	14	13	14	81	425
	6:30 AM	1	63	36	105	89	3	11	21	16	23	19	84	469
	6:45 AM	6	43	64	100	91	3	17	16	5	43	18	90	493
	7:00 AM	14	49	46	75	69	10	13	13	11	40	14	77	429
	7:15 AM	5	38	43	94	85	0	1	16	6	28	11	75	400
	7:30 AM	5	49	78	92	76	2	7	21	3	40	8	77	456
	7:45 AM	15	65	82	106	92	11	2	9	2	37	25	97	541
	8:00 AM	3	43	55	93	71	6	3	8	9	60	20	91	460
	8:15 AM	10	51	60	71	56	1	11	13	7	27	25	108	438
	8:30 AM	16	50	52	62	59	3	14	14	12	62	19	83	443
	8:45 AM	5	50	65	62	92	12	6	22	19	58	8	67	462
	VOLUMES	92	585	658	1,029	917	62	106	190	122	479	215	990	5,442
	APPROACH %	7%	44%	49%	51%	46%	3%	25%	45%	29%	28%	13%	59%	
APP/DEPART	1,335	/	1,680	2,008	/	1,517	417	/	1,876	1,683	/	369	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	32	207	274	362	295	20	22	50	21	164	77	373	1,894	
APPROACH %	6%	40%	53%	53%	44%	3%	24%	54%	22%	27%	12%	61%		
PEAK HR FACTOR	0.794			0.811			0.746			0.898			0.876	
APP/DEPART	513	/	602	676	/	479	93	/	686	613	/	129	0	
<b>PM</b>	03:00 PM	11	80	74	113	121	12	4	21	7	30	20	104	595
	3:15 PM	7	75	70	99	96	5	6	14	9	54	19	115	567
	3:30 PM	0	94	75	99	120	10	19	13	8	65	10	133	644
	3:45 PM	1	96	70	109	130	7	12	11	4	69	14	115	636
	4:00 PM	3	88	87	114	98	6	7	20	8	51	19	129	626
	4:15 PM	0	52	86	134	122	9	5	6	0	51	11	102	576
	4:30 PM	8	72	94	118	91	0	10	7	5	61	14	122	599
	4:45 PM	5	100	97	125	119	7	5	14	2	48	35	129	684
	5:00 PM	3	74	89	108	88	5	9	17	12	72	19	110	604
	5:15 PM	8	68	111	108	100	8	3	18	6	65	10	88	590
	5:30 PM	5	89	65	119	80	4	4	10	5	57	8	131	575
	5:45 PM	0	74	59	96	115	6	3	6	2	37	19	108	522
	VOLUMES	49	959	975	1,339	1,278	77	86	154	66	657	195	1,383	7,216
	APPROACH %	2%	48%	49%	50%	47%	3%	28%	50%	22%	29%	9%	62%	
APP/DEPART	1,982	/	2,427	2,694	/	2,001	306	/	2,468	2,235	/	321	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	15	311	363	490	429	22	27	46	14	210	77	482	2,485	
APPROACH %	2%	45%	53%	52%	46%	2%	31%	53%	16%	27%	10%	63%		
PEAK HR FACTOR	0.854			0.891			0.630			0.908			0.908	
APP/DEPART	689	/	819	941	/	653	87	/	899	769	/	114	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Agua Mansa  
Market

**PROJECT #:** SC2668  
**LOCATION #:** 21  
**CONTROL:** SIGNAL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Agua Mansa			Agua Mansa			Market			Market			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	1	2	0	1	2	0	

<b>AM</b>	6:00 AM	0	0	0	27	0	55	39	100	0	0	95	33	347
	6:15 AM	1	0	0	17	0	28	56	96	0	1	79	40	316
	6:30 AM	0	0	0	29	0	35	34	125	0	0	91	39	352
	6:45 AM	0	0	0	37	0	45	80	99	1	4	105	55	425
	7:00 AM	0	0	2	32	2	46	41	91	2	0	84	35	333
	7:15 AM	0	2	2	20	1	26	42	107	0	2	88	33	321
	7:30 AM	1	0	1	30	2	36	82	101	8	1	89	48	397
	7:45 AM	2	4	0	35	6	44	74	122	0	0	113	49	448
	8:00 AM	4	0	3	28	0	58	62	91	3	0	108	47	403
	8:15 AM	0	0	0	34	6	39	61	78	5	3	118	28	371
	8:30 AM	7	3	6	34	1	73	56	68	3	0	84	50	383
	8:45 AM	7	3	1	37	3	65	74	70	4	3	61	71	398
	VOLUMES	21	12	14	357	20	548	698	1,147	26	13	1,112	526	4,491
	APPROACH %	45%	25%	30%	39%	2%	59%	37%	61%	1%	1%	67%	32%	
APP/DEPART	47	/	1,235	925	/	59	1,870	/	1,518	1,650	/	1,680	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	7	4	4	126	14	176	278	392	16	4	427	172	1,618	
APPROACH %	48%	24%	28%	40%	4%	56%	41%	57%	2%	1%	71%	28%		
PEAK HR FACTOR	0.518			0.917			0.877			0.932			0.904	
APP/DEPART	15	/	453	316	/	33	686	/	522	602	/	610	0	
<b>PM</b>	03:00 PM	2	0	0	22	1	38	80	129	0	0	114	49	434
	3:15 PM	0	3	3	36	2	65	79	100	4	5	123	65	484
	3:30 PM	5	4	2	55	5	76	75	111	2	0	130	74	535
	3:45 PM	2	3	0	38	3	67	67	118	3	2	127	58	488
	4:00 PM	5	3	2	38	0	62	92	129	0	0	131	48	509
	4:15 PM	0	0	0	37	0	58	94	130	0	0	102	42	461
	4:30 PM	0	0	0	31	0	79	102	117	0	0	119	38	484
	4:45 PM	0	0	0	26	0	56	102	129	0	0	156	42	509
	5:00 PM	0	2	0	38	0	81	92	122	0	0	119	37	490
	5:15 PM	0	0	0	31	0	69	107	130	0	0	93	55	483
	5:30 PM	0	0	0	19	0	63	72	126	0	0	133	51	462
	5:45 PM	0	1	0	20	0	55	75	85	0	0	106	32	374
	VOLUMES	14	16	7	389	11	767	1,033	1,422	8	7	1,450	588	5,710
	APPROACH %	38%	44%	18%	33%	1%	66%	42%	58%	0%	0%	71%	29%	
APP/DEPART	36	/	1,636	1,167	/	26	2,463	/	1,817	2,045	/	2,231	0	
BEGIN PEAK HR	3:15 PM													
VOLUMES	12	13	7	167	10	269	311	458	8	7	511	244	2,015	
APPROACH %	37%	42%	21%	37%	2%	60%	40%	59%	1%	1%	67%	32%		
PEAK HR FACTOR	0.775			0.825			0.882			0.938			0.941	
APP/DEPART	31	/	568	446	/	25	777	/	631	762	/	791	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Market  
24th

**PROJECT #:** SC2668  
**LOCATION #:** 22  
**CONTROL:** SIGNAL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Market			Market			24th			24th			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	1	0	1	1	1	0.5	0.5	1	1	1	0	

<b>AM</b>	6:00 AM	8	112	59	3	118	0	1	2	10	16	4	0	331
	6:15 AM	5	129	25	7	106	0	0	2	8	15	1	0	297
	6:30 AM	5	138	39	4	134	0	0	9	16	29	7	3	383
	6:45 AM	2	149	67	6	128	0	0	12	15	25	0	4	406
	7:00 AM	3	104	30	7	117	0	0	2	5	9	3	9	288
	7:15 AM	5	117	21	5	122	2	1	2	11	23	1	8	315
	7:30 AM	10	160	32	5	124	0	0	8	21	18	8	6	389
	7:45 AM	14	152	67	8	120	0	1	8	17	21	0	2	407
	8:00 AM	13	144	37	4	131	0	2	4	19	12	1	4	369
	8:15 AM	8	144	22	6	114	0	0	4	8	29	5	5	344
	8:30 AM	8	133	29	0	99	0	0	6	12	24	8	6	322
	8:45 AM	5	137	23	2	113	0	0	8	16	24	3	4	334
	VOLUMES	83	1,615	449	56	1,423	2	5	66	156	242	39	50	4,182
	APPROACH %	4%	75%	21%	4%	96%	0%	2%	29%	69%	73%	12%	15%	
APP/DEPART	2,146	/	1,670	1,480	/	1,820	226	/	570	330	/	123	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	44	599	157	23	488	0	3	23	64	79	13	17	1,509	
APPROACH %	6%	75%	20%	5%	95%	0%	3%	26%	71%	73%	12%	15%		
PEAK HR FACTOR	0.862			0.946			0.799			0.711			0.927	
APP/DEPART	800	/	619	511	/	630	90	/	203	108	/	57	0	
<b>PM</b>	03:00 PM	8	173	20	8	125	3	0	9	27	57	12	3	441
	3:15 PM	10	187	27	6	135	1	2	10	25	42	2	2	448
	3:30 PM	14	196	26	1	150	2	3	7	45	73	15	12	542
	3:45 PM	14	195	32	1	146	2	4	7	45	73	15	12	544
	4:00 PM	13	168	9	3	170	0	0	14	75	59	17	12	538
	4:15 PM	13	162	9	3	170	0	0	14	75	55	17	12	528
	4:30 PM	8	158	17	7	139	0	0	3	23	74	12	12	452
	4:45 PM	3	151	12	4	151	1	2	9	33	33	7	8	413
	5:00 PM	9	165	6	3	149	1	0	4	38	46	6	7	434
	5:15 PM	6	144	5	0	150	1	0	1	27	32	2	5	372
	5:30 PM	15	163	13	1	140	4	0	4	18	20	1	4	382
	5:45 PM	18	147	14	0	112	0	1	1	13	21	9	6	340
	VOLUMES	128	2,006	189	36	1,734	15	11	81	443	583	113	95	5,432
	APPROACH %	6%	86%	8%	2%	97%	1%	2%	15%	83%	74%	14%	12%	
APP/DEPART	2,323	/	2,112	1,785	/	2,759	535	/	306	790	/	256	0	
BEGIN PEAK HR	3:30 PM													
VOLUMES	53	720	75	8	634	4	6	42	239	259	63	48	2,151	
APPROACH %	6%	85%	9%	1%	98%	1%	2%	15%	83%	70%	17%	13%		
PEAK HR FACTOR	0.883			0.936			0.811			0.930			0.989	
APP/DEPART	848	/	774	646	/	1,132	287	/	125	370	/	120	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Market  
Rivera

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
23  
SIGNAL

PCE Adjusted	<b>NOTES:</b>							AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	Class	1	2	3	4	5	6				
	Factor	1	1.5	2	3	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Market			Market			Rivera			Rivera			
	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 0.5	ET 0.5	ER 1	WL 1.5	WT 0.5	WR 1	

<b>AM</b>	6:00 AM	14	138	25	1	121	0	0	0	3	26	0	11	337
	6:15 AM	10	154	27	3	128	0	2	0	15	39	2	8	387
	6:30 AM	13	176	21	6	146	2	1	2	20	30	0	6	422
	6:45 AM	18	196	35	12	168	2	3	0	20	32	2	7	493
	7:00 AM	10	125	31	5	135	0	2	0	9	48	0	6	369
	7:15 AM	1	125	41	3	139	0	0	0	3	35	0	6	351
	7:30 AM	10	197	40	8	159	0	0	0	0	39	2	14	467
	7:45 AM	5	243	51	8	141	0	0	0	4	34	0	5	489
	8:00 AM	4	177	31	9	145	0	0	0	3	41	2	7	416
	8:15 AM	5	162	32	7	145	0	0	0	1	40	0	8	400
	8:30 AM	0	173	43	7	142	0	2	0	2	41	0	6	414
	8:45 AM	4	166	61	8	127	0	0	0	3	45	0	5	417
	VOLUMES	93	2,030	434	76	1,692	4	10	2	80	447	8	88	4,960
	APPROACH %	4%	79%	17%	4%	96%	0%	10%	2%	88%	82%	1%	16%	
APP/DEPART	2,556	/	2,127	1,772	/	2,219	91	/	511	542	/	104	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	23	778	153	32	589	0	0	0	7	153	4	34	1,772	
APPROACH %	2%	82%	16%	5%	95%	0%	0%	0%	100%	81%	2%	18%		
PEAK HR FACTOR	0.800			0.932			0.500			0.864			0.906	
APP/DEPART	954	/	812	621	/	749	7	/	185	190	/	27	0	
<b>PM</b>	03:00 PM	8	200	48	11	209	0	0	3	4	37	3	13	534
	3:15 PM	12	204	49	13	188	2	0	1	0	35	6	11	519
	3:30 PM	8	224	45	19	204	8	0	1	4	28	0	15	555
	3:45 PM	18	189	41	22	246	0	0	1	1	47	3	16	581
	4:00 PM	1	168	45	21	250	0	0	0	4	37	2	11	537
	4:15 PM	0	168	56	16	256	0	0	2	9	46	1	8	561
	4:30 PM	0	183	45	30	206	0	0	8	49	48	0	7	575
	4:45 PM	1	145	51	24	239	0	0	1	5	47	0	13	524
	5:00 PM	1	163	44	19	198	0	1	1	15	59	0	12	511
	5:15 PM	4	147	42	20	216	1	1	0	5	44	0	8	486
	5:30 PM	0	187	55	14	156	0	2	1	16	40	0	9	480
	5:45 PM	0	161	49	9	138	0	0	0	4	21	0	9	390
	VOLUMES	52	2,136	566	216	2,503	11	4	19	116	487	13	130	6,251
	APPROACH %	2%	78%	21%	8%	92%	0%	3%	14%	83%	77%	2%	21%	
APP/DEPART	2,753	/	2,270	2,729	/	3,106	139	/	801	630	/	75	0	
BEGIN PEAK HR	3:45 PM													
VOLUMES	19	707	186	89	957	0	0	11	63	177	5	41	2,253	
APPROACH %	2%	78%	20%	8%	92%	0%	0%	15%	85%	79%	2%	18%		
PEAK HR FACTOR	0.922			0.962			0.325			0.858			0.969	
APP/DEPART	911	/	748	1,045	/	1,197	74	/	285	223	/	24	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Market  
SR-60 WB Ramps

**PROJECT #:**  
**LOCATION #:**  
**CONTROL:**

SC2668  
24  
SIGNAL

PCE Adjusted	<b>NOTES:</b>										AM PM MD OTHER OTHER	◀ W	▲ N  S ▼	E ▶
	<b>Class</b>	1	2	3	4	5	6	7	8	9				
	<b>Factor</b>	1	1.5	2	3	2	2	2	2	2				

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Market			Market			SR-60 WB Ramps			SR-60 WB Ramps			
	NL 1	NT 2	NR X	SL X	ST 2	SR 1	EL X	ET X	ER X	WL 1	WT 0	WR 1	

<b>AM</b>	6:00 AM	22	47	0	0	132	15	0	0	0	4	0	128	348
	6:15 AM	36	43	0	0	148	33	0	0	0	1	0	148	408
	6:30 AM	39	60	0	0	169	27	0	0	0	8	0	150	453
	6:45 AM	28	64	0	0	194	26	0	0	0	13	0	185	509
	7:00 AM	33	37	0	0	156	29	0	0	0	12	0	128	395
	7:15 AM	20	45	0	0	144	33	0	0	0	8	0	120	369
	7:30 AM	45	54	0	0	170	29	0	0	0	7	0	191	495
	7:45 AM	30	61	0	0	149	30	0	0	0	24	0	238	530
	8:00 AM	22	41	0	0	163	26	0	0	0	29	0	171	450
	8:15 AM	23	47	0	0	164	23	0	0	0	19	0	152	426
	8:30 AM	38	52	0	0	153	32	0	0	0	15	0	164	453
	8:45 AM	22	51	0	0	153	22	0	0	0	22	0	180	449
	VOLUMES	357	599	0	0	1,893	321	0	0	0	161	0	1,953	5,282
	APPROACH %	37%	63%	0%	0%	85%	15%	0%	0%	0%	8%	0%	92%	
APP/DEPART	956	/	2,552	2,214	/	2,053	0	/	0	2,113	/	678	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	119	202	0	0	645	107	0	0	0	78	0	751	1,900	
APPROACH %	37%	63%	0%	0%	86%	14%	0%	0%	0%	9%	0%	91%		
PEAK HR FACTOR	0.812			0.946						0.000			0.793	
APP/DEPART	320	/	953	751	/	723	0	/	0	829	/	225	0	
<b>PM</b>	03:00 PM	37	56	0	0	218	34	0	0	0	13	0	200	557
	3:15 PM	45	78	0	0	190	33	0	0	0	17	1	187	550
	3:30 PM	56	71	0	0	207	30	0	0	0	24	0	206	592
	3:45 PM	28	67	0	0	253	41	0	0	0	17	0	181	586
	4:00 PM	46	61	0	0	267	25	0	0	0	19	3	153	572
	4:15 PM	45	68	0	0	267	43	0	0	0	15	0	156	592
	4:30 PM	68	67	0	0	252	48	0	0	0	16	0	161	610
	4:45 PM	56	58	0	0	254	37	0	0	0	26	0	136	566
	5:00 PM	80	57	0	0	233	39	0	0	0	26	0	150	583
	5:15 PM	66	72	0	0	237	28	0	0	0	17	0	121	540
	5:30 PM	52	89	0	0	183	27	0	0	0	24	0	153	528
	5:45 PM	46	60	0	0	145	18	0	0	0	25	1	150	443
	VOLUMES	622	800	0	0	2,703	402	0	0	0	236	5	1,950	6,716
	APPROACH %	44%	56%	0%	0%	87%	13%	0%	0%	0%	11%	0%	89%	
APP/DEPART	1,421	/	2,749	3,105	/	2,939	0	/	0	2,191	/	1,028	0	
BEGIN PEAK HR	3:45 PM													
VOLUMES	186	261	0	0	1,038	156	0	0	0	66	3	650	2,359	
APPROACH %	42%	58%	0%	0%	87%	13%	0%	0%	0%	9%	0%	90%		
PEAK HR FACTOR	0.833			0.964						0.000			0.911	
APP/DEPART	447	/	911	1,194	/	1,104	0	/	0	718	/	345	0	

# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

**DATE:**  
9/29/20  
TUESDAY

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST:

Bloomington  
Market  
SR-60 EB Ramps

**PROJECT #:** SC2668  
**LOCATION #:** 25  
**CONTROL:** SIGNAL

PCE Adjusted	<b>NOTES:</b>						AM PM MD OTHER OTHER	◀ W	▲ N S ▼	E ▶	
	Class	1	2	3	4	5					6
	Factor	1	1.5	2	3	2					2

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Market			Market			SR-60 EB Ramps			SR-60 EB Ramps			
	NL X	NT 2	NR 0	SL 1	ST 2	SR X	EL 1	ET 0	ER 2	WL X	WT X	WR X	

AM	6:00 AM	0	52	13	109	29	0	18	2	35	0	0	0	257
	6:15 AM	0	64	12	134	24	0	15	0	40	0	0	0	287
	6:30 AM	0	72	14	136	35	0	25	0	62	0	0	0	343
	6:45 AM	0	61	16	163	44	0	31	0	68	0	0	0	382
	7:00 AM	0	54	14	128	40	0	16	0	62	0	0	0	313
	7:15 AM	0	53	11	112	42	0	13	0	59	0	0	0	288
	7:30 AM	0	81	24	138	40	0	18	1	81	0	0	0	381
	7:45 AM	0	60	31	121	52	0	30	0	70	0	0	0	364
	8:00 AM	0	41	19	136	54	0	22	2	56	0	0	0	329
	8:15 AM	0	53	25	121	60	0	17	0	55	0	0	0	330
	8:30 AM	0	61	19	120	48	0	29	0	61	0	0	0	337
	8:45 AM	0	45	17	125	51	0	28	0	50	0	0	0	315
	VOLUMES	0	694	212	1,539	517	0	260	4	697	0	0	0	3,921
APPROACH %	0%	77%	23%	75%	25%	0%	27%	0%	73%	0%	0%	0%		
APP/DEPART	906	/	954	2,055	/	1,213	960	/	1,755	0	/	0	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	0	234	99	515	206	0	87	3	262	0	0	0	1,403	
APPROACH %	0%	70%	30%	71%	29%	0%	25%	1%	75%	0%	0%	0%		
PEAK HR FACTOR	0.798			0.950			0.876			0.000			0.920	
APP/DEPART	332	/	320	720	/	467	351	/	616	0	/	0	0	
PM	03:00 PM	0	73	25	139	92	0	20	1	112	0	0	0	460
	3:15 PM	0	93	14	132	76	0	30	2	113	0	0	0	458
	3:30 PM	0	106	30	133	99	0	21	0	61	0	0	0	449
	3:45 PM	0	85	29	182	90	0	10	0	29	0	0	0	423
	4:00 PM	0	91	16	185	102	0	15	0	50	0	0	0	459
	4:15 PM	0	90	21	164	117	0	22	0	79	0	0	0	493
	4:30 PM	0	111	11	163	105	0	21	3	94	0	0	0	507
	4:45 PM	0	100	19	133	144	0	14	1	133	0	0	0	543
	5:00 PM	0	105	12	117	142	0	32	1	157	0	0	0	564
	5:15 PM	0	119	17	126	128	0	19	0	204	0	0	0	613
	5:30 PM	0	95	10	94	113	0	46	0	197	0	0	0	555
	5:45 PM	0	86	24	66	102	0	20	2	165	0	0	0	464
	VOLUMES	0	1,151	226	1,632	1,309	0	267	9	1,392	0	0	0	5,986
APPROACH %	0%	84%	16%	56%	44%	0%	16%	1%	83%	0%	0%	0%		
APP/DEPART	1,377	/	1,418	2,941	/	2,701	1,668	/	1,867	0	/	0	0	
BEGIN PEAK HR	4:45 PM													
VOLUMES	0	418	58	470	527	0	110	2	690	0	0	0	2,274	
APPROACH %	0%	88%	12%	47%	53%	0%	14%	0%	86%	0%	0%	0%		
PEAK HR FACTOR	0.877			0.901			0.827			0.000			0.928	
APP/DEPART	476	/	528	996	/	1,217	802	/	529	0	/	0	0	



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*APPENDIX C – LEVEL OF SERVICE CALCULATIONS*

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## Bloomington Business Park Specific Plan

Vistro File: Z:\...\Bloomington Alt.vistro

Scenario 13 Existing AM

Report File: Z:\...\Existing AM.pdf

1/11/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.644	35.9	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	0.502	31.0	C
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.334	4.5	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.376	16.3	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	WB Thru	0.302	8.8	A
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.405	10.7	B
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.078	12.6	B
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	SB Thru	0.022	11.5	B
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.048	9.8	A
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.126	7.9	A
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	SB Right	0.980	52.1	D
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.813	35.3	D
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.457	8.0	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.597	29.7	C
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.401	10.9	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	0.948	16.1	B
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.357	8.3	A
			HCM 6th				

Version 2020 (SP 0-5)

18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.333	7.8	A
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.465	12.3	B
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	EB Thru	0.727	36.2	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.543	24.6	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.558	17.5	B
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.398	11.4	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.413	10.9	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	EBR2	0.586	21.7	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	35.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.644

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	615	801	308	563	657	1094	1048	0	519	375	0	691
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	77	0	0	274	0	0	130	0	0	173
Total Hourly Volume [veh/h]	615	801	231	563	657	820	1048	0	389	375	0	518
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	1.0000	0.9530	0.9530	1.0000	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	161	210	61	148	172	215	275	0	102	98	0	136
Total Analysis Volume [veh/h]	645	841	242	591	689	860	1100	0	408	393	0	544
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	2		3			3			1			
v_ci, Inbound Pedestrian Volume crossing mi	1		3			3			2			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	39	21	38	38	38
g / C, Green / Cycle	0.21	0.36	0.19	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.18	0.16	0.17	0.13	0.31	0.11
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	721	1855	672	1783	1199	1199
d1, Uniform Delay [s]	42.52	26.99	43.21	27.23	34.72	26.85
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.22	0.80	3.95	0.63	3.32	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.89	0.45	0.88	0.39	0.92	0.33
d, Delay for Lane Group [s/veh]	46.73	27.80	47.16	27.86	38.04	27.01
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.69	5.58	8.04	4.59	13.07	3.48
50th-Percentile Queue Length [ft/ln]	217.30	139.52	200.96	114.66	326.67	87.11
95th-Percentile Queue Length [veh/ln]	13.53	9.46	12.69	8.10	18.99	6.27
95th-Percentile Queue Length [ft/ln]	338.18	236.38	317.21	202.47	474.87	156.81

**Movement, Approach, & Intersection Results**

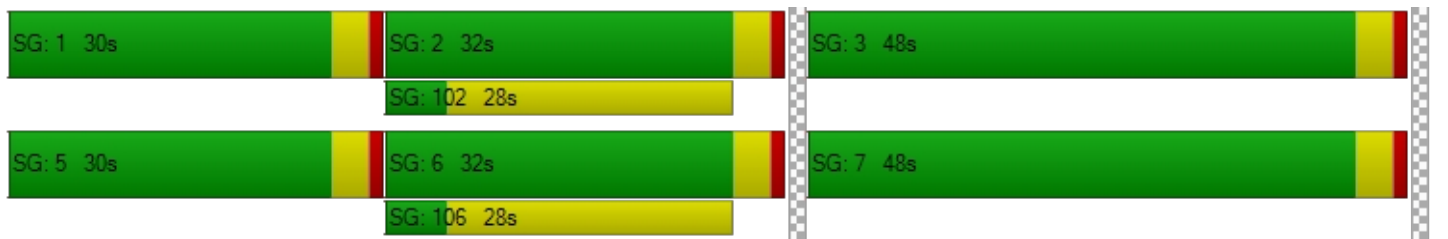
d_M, Delay for Movement [s/veh]	46.73	27.80	0.00	47.16	27.86	0.00	38.04	0.00	0.00	27.01	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	36.01			36.77			38.04			27.01		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	35.93											
Intersection LOS	D											
Intersection V/C	0.644											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	46.37	46.37
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	3.078	2.810
Crosswalk LOS	F	F	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	509	509	800	800
d_b, Bicycle Delay [s]	30.56	30.56	19.80	19.80
I_b,int, Bicycle LOS Score for Intersection	2.377	2.264	1.560	1.560
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.502

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	146	1235	88	550	875	156	190	194	58	49	243	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	39	0	0	15	0	0	88
Total Hourly Volume [veh/h]	146	1235	66	550	875	117	190	194	43	49	243	262
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	330	18	147	234	31	51	52	11	13	65	70
Total Analysis Volume [veh/h]	156	1321	71	588	936	125	203	207	46	52	260	280
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	34	40	0	30	36	0	15	42	0	13	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	64	64	23	80	80	9	17	17	4	12	39
g / C, Green / Cycle	0.06	0.51	0.51	0.19	0.64	0.64	0.07	0.14	0.14	0.03	0.10	0.32
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.20	0.17	0.20	0.20	0.06	0.06	0.03	0.01	0.07	0.10
s, saturation flow rate [veh/h]	3514	5176	1837	3514	3618	1788	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	221	2660	944	661	2313	1143	260	491	219	120	347	903
d1, Uniform Delay [s]	57.47	18.42	18.43	49.51	10.12	10.13	56.89	49.53	48.07	59.19	55.06	32.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.12	0.42	1.20	4.38	0.34	0.70	5.04	0.58	0.47	2.44	3.25	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.39	0.39	0.89	0.31	0.31	0.78	0.42	0.21	0.43	0.75	0.31
d, Delay for Lane Group [s/veh]	61.59	18.85	19.62	53.88	10.47	10.82	61.94	50.11	48.54	61.62	58.31	32.63
Lane Group LOS	E	B	B	D	B	B	E	D	D	E	E	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.47	5.68	6.27	9.18	4.16	4.23	3.26	2.94	1.28	0.83	4.02	3.12
50th-Percentile Queue Length [ft/ln]	61.85	142.11	156.63	229.52	103.95	105.66	81.58	73.58	32.03	20.65	100.60	78.11
95th-Percentile Queue Length [veh/ln]	4.45	9.59	10.37	14.15	7.48	7.60	5.87	5.30	2.31	1.49	7.24	5.62
95th-Percentile Queue Length [ft/ln]	111.34	239.86	259.25	353.75	187.11	189.95	146.85	132.44	57.65	37.17	181.08	140.59

**Movement, Approach, & Intersection Results**

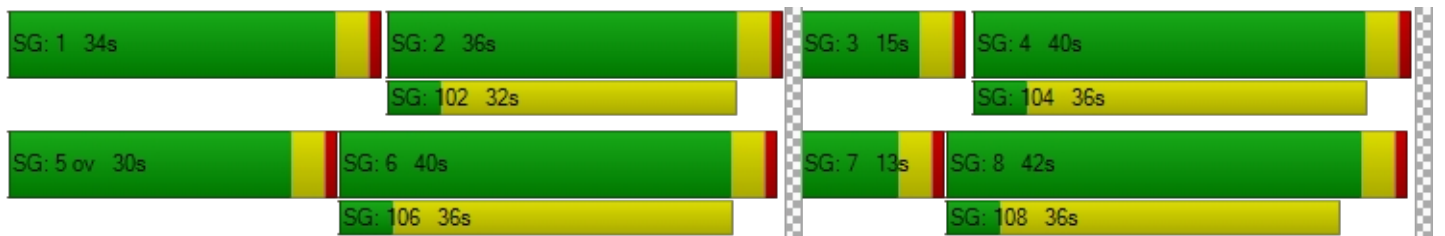
d_M, Delay for Movement [s/veh]	61.59	19.02	19.62	53.88	10.55	10.82	61.94	50.11	48.54	61.62	58.31	32.63
Movement LOS	E	B	B	D	B	B	E	D	D	E	E	C
d_A, Approach Delay [s/veh]	23.34			26.02			55.22			46.45		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	31.03											
Intersection LOS	C											
Intersection V/C	0.502											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.82	53.82	53.82	53.82
I_p,int, Pedestrian LOS Score for Intersection	3.371	3.439	2.956	3.275
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	576	512	608	576
d_b, Bicycle Delay [s]	31.68	34.60	30.28	31.68
I_b,int, Bicycle LOS Score for Intersection	2.207	2.488	1.948	2.121
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.334

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	



**Volumes**

Name						
Base Volume Input [veh/h]	1408	23	56	888	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1408	17	56	888	10	47
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	371	4	15	234	3	12
Total Analysis Volume [veh/h]	1484	18	59	936	11	50
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	24	0	9	33	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	51	3	59	4	4
g / C, Green / Cycle	0.73	0.73	0.05	0.84	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.29	0.01	0.02	0.18	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3763	1174	177	4320	93	83
d1, Uniform Delay [s]	3.66	2.64	32.15	1.17	31.75	32.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.02	1.09	0.12	0.56	6.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.39	0.02	0.33	0.22	0.12	0.60
d, Delay for Lane Group [s/veh]	3.97	2.66	33.24	1.29	32.31	39.44
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.14	0.03	0.50	0.17	0.19	0.96
50th-Percentile Queue Length [ft/ln]	28.53	0.87	12.38	4.21	4.68	24.07
95th-Percentile Queue Length [veh/ln]	2.05	0.06	0.89	0.30	0.34	1.73
95th-Percentile Queue Length [ft/ln]	51.35	1.57	22.29	7.57	8.42	43.33

**Movement, Approach, & Intersection Results**

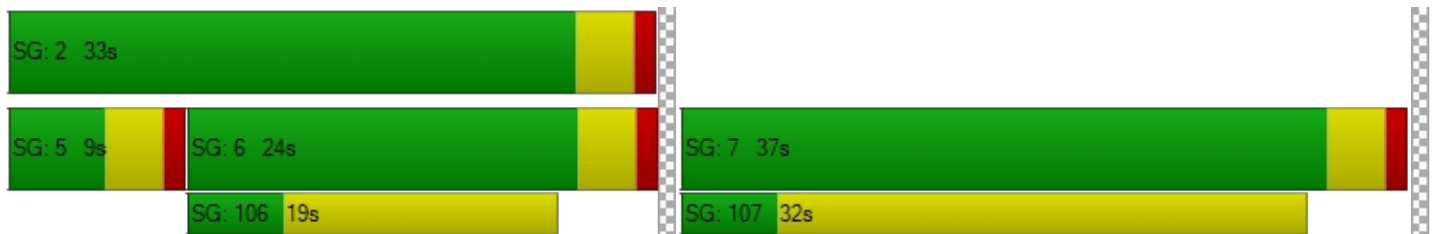
d_M, Delay for Movement [s/veh]	3.97	2.66	33.24	1.29	32.31	39.44
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	3.96		3.18		38.15	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.47					
Intersection LOS	A					
Intersection V/C	0.334					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	26.58
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.024	2.182
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	829	943
d_b, Bicycle Delay [s]	17.86	12.01	9.78
I_b,int, Bicycle LOS Score for Intersection	2.389	2.107	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.376

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1235	35	56	761	65	99	59	41	48	75	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	16	0	0	10	0	0	23
Total Hourly Volume [veh/h]	134	1235	26	56	761	49	99	59	31	48	75	67
Peak Hour Factor	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	331	7	15	204	13	27	16	8	13	20	18
Total Analysis Volume [veh/h]	144	1324	28	60	816	53	106	63	33	51	80	72
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	11	40	0	11	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	57	57	4	56	56	7	9	9	4	6	6
g / C, Green / Cycle	0.06	0.64	0.64	0.04	0.62	0.62	0.07	0.10	0.10	0.04	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.02	0.02	0.16	0.16	0.06	0.02	0.02	0.03	0.02	0.04
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1841	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	3280	1023	156	2249	1145	137	373	166	75	249	111
d1, Uniform Delay [s]	41.85	8.13	6.16	41.89	7.67	7.68	40.94	36.92	37.03	42.64	39.97	40.91
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.96	0.37	0.05	1.54	0.27	0.54	9.05	0.21	0.58	10.37	0.74	6.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.72	0.40	0.03	0.38	0.26	0.26	0.78	0.17	0.20	0.68	0.32	0.65
d, Delay for Lane Group [s/veh]	46.81	8.50	6.21	43.43	7.95	8.22	49.98	37.13	37.61	53.01	40.71	47.08
Lane Group LOS	D	A	A	D	A	A	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.69	3.81	0.19	0.68	2.32	2.46	2.63	0.64	0.69	1.32	0.86	1.73
50th-Percentile Queue Length [ft/ln]	42.35	95.34	4.80	16.89	58.10	61.55	65.63	15.96	17.15	33.10	21.53	43.26
95th-Percentile Queue Length [veh/ln]	3.05	6.86	0.35	1.22	4.18	4.43	4.73	1.15	1.24	2.38	1.55	3.11
95th-Percentile Queue Length [ft/ln]	76.22	171.61	8.63	30.41	104.58	110.79	118.14	28.73	30.88	59.58	38.75	77.86



**Movement, Approach, & Intersection Results**

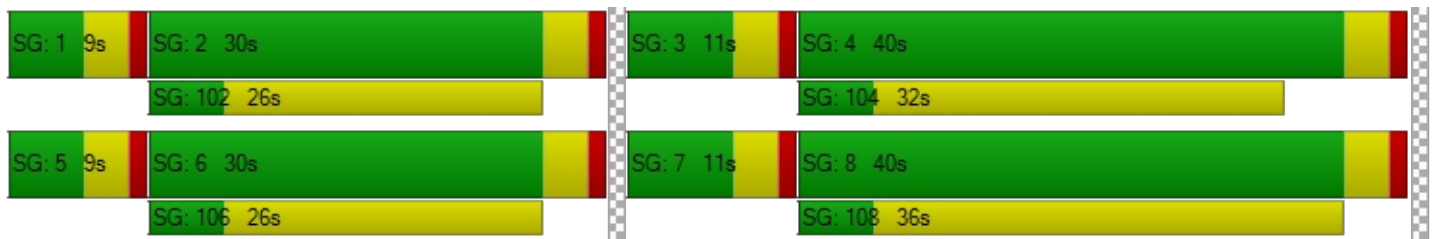
d_M, Delay for Movement [s/veh]	46.81	8.50	6.21	43.43	8.03	8.22	49.98	37.13	37.61	53.01	40.71	47.08
Movement LOS	D	A	A	D	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	12.14			10.33			43.95			46.06		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.25											
Intersection LOS	B											
Intersection V/C	0.376											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.45			36.45			36.45			36.45		
I_p,int, Pedestrian LOS Score for Intersection	3.125			3.051			2.551			2.550		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	578			578			800			800		
d_b, Bicycle Delay [s]	22.76			22.76			16.20			16.20		
I_b,int, Bicycle LOS Score for Intersection	2.387			2.079			1.735			1.746		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.302

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	3	3	11	0	10	9	177	3	8	203	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	3	3	11	0	10	9	177	3	8	203	10
Peak Hour Factor	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	3	0	3	3	52	1	2	59	3
Total Analysis Volume [veh/h]	6	4	4	13	0	12	11	207	4	9	238	12
Pedestrian Volume [ped/h]	0			0			0			0		

Version 2020 (SP 0-5)

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	736	754	846	857
Degree of Utilization, x	0.02	0.03	0.26	0.30

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.06	0.10	1.05	1.28
95th-Percentile Queue Length [ft]	1.45	2.57	26.32	31.94
Approach Delay [s/veh]	7.99	7.94	8.76	9.01
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.83			
Intersection LOS	A			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Peak Hour Factor	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	46	8	2	21	1	1	23	21	17	36	5
Total Analysis Volume [veh/h]	66	185	34	7	83	6	6	91	83	68	143	21
Pedestrian Volume [ped/h]	0			0			0			0		

Version 2020 (SP 0-5)

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	704	663	716	691
Degree of Utilization, x	0.41	0.14	0.25	0.34

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	1.97	0.50	0.99	1.48
95th-Percentile Queue Length [ft]	49.24	12.60	24.80	36.94
Approach Delay [s/veh]	11.56	9.34	9.70	10.82
Approach LOS	B	A	A	B
Intersection Delay [s/veh]	10.65			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↶		↷		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	208	39	22	177	37	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	208	39	22	177	37	37
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	11	6	49	10	10
Total Analysis Volume [veh/h]	228	43	24	194	41	41
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.08	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	7.81	0.00	12.65	10.37
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.06	0.44	0.44
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.41	1.41	11.05	11.05
d_A, Approach Delay [s/veh]	0.00		0.86		11.51	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.98					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	8	10	6	12	26	5	110	6	8	172	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	8	10	6	12	26	5	110	6	8	172	9
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	3	2	3	7	1	29	2	2	45	2
Total Analysis Volume [veh/h]	9	8	10	6	13	27	5	115	6	8	180	9
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.01	0.01	0.01	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	11.47	11.38	9.05	11.31	11.48	9.51	7.59	0.00	0.00	7.45	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.12	0.20	0.20	0.20	0.01	0.01	0.01	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	3.12	3.12	3.12	5.07	5.07	5.07	0.27	0.27	0.27	0.41	0.41	0.41
d_A, Approach Delay [s/veh]	10.55			10.30			0.30			0.30		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.16											
Intersection LOS	B											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	26	4	1	61	76	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	4	1	61	76	6
Peak Hour Factor	0.6840	0.6840	0.6840	0.6840	0.6840	0.6840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	1	0	22	28	2
Total Analysis Volume [veh/h]	38	6	1	89	111	9
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.84	9.08	7.43	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.33	4.33	0.05	0.05	0.00	0.00
d_A, Approach Delay [s/veh]	9.74		0.08		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.72					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.126

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Peak Hour Factor	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	12	2	4	6	4	0	23	2	1	21	5
Total Analysis Volume [veh/h]	6	49	6	18	23	17	1	92	8	4	83	22
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	815	828	739	864	737	865
Degree of Utilization, x	0.07	0.07	0.13	0.01	0.12	0.03

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.24	0.23	0.43	0.03	0.40	0.08
95th-Percentile Queue Length [ft]	6.05	5.64	10.75	0.70	10.00	1.96
Approach Delay [s/veh]	7.77	7.67	8.17		7.98	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	7.95					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	52.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.980

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	253	0	0	0	0	0	122
Total Hourly Volume [veh/h]	372	1158	0	0	1225	759	0	0	0	339	5	364
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	96	299	0	0	317	196	0	0	0	88	1	94
Total Analysis Volume [veh/h]	385	1198	0	0	1267	785	0	0	0	351	5	376
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	23	67	0	0	44	0	0	0	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	19	63	40	40		19	19
g / C, Green / Cycle	0.21	0.70	0.44	0.44		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.35	0.26	0.51		0.22	0.23
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1702	1530
c, Capacity [veh/h]	342	2398	2176	679		360	324
d1, Uniform Delay [s]	35.50	6.24	18.78	25.04		35.50	35.50
k, delay calibration	0.24	0.50	0.50	0.50		0.21	0.22
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	73.43	0.75	1.15	86.25		47.34	58.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.12	0.50	0.58	1.16		1.06	1.09
d, Delay for Lane Group [s/veh]	108.93	6.99	19.93	111.30		82.85	94.32
Lane Group LOS	F	A	B	F		F	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	14.30	4.51	6.50	29.72		12.42	12.20
50th-Percentile Queue Length [ft/ln]	357.39	112.63	162.62	742.90		310.49	304.89
95th-Percentile Queue Length [veh/ln]	21.77	7.99	10.69	42.78		18.75	18.69
95th-Percentile Queue Length [ft/ln]	544.26	199.65	267.19	1069.40		468.80	467.37

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	108.93	6.99	0.00	0.00	19.93	111.30	0.00	0.00	0.00	82.85	82.85	93.99
Movement LOS	F	A			B	F				F	F	F
d_A, Approach Delay [s/veh]	31.78				54.88		0.00		88.35			
Approach LOS	C				D		A		F			
d_I, Intersection Delay [s/veh]	52.12											
Intersection LOS	D											
Intersection V/C	0.980											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		36.45		36.45	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.413		2.393	
Crosswalk LOS	F		F		B		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1400		889		0		422	
d_b, Bicycle Delay [s]	4.05		13.89		45.00		28.01	
I_b,int, Bicycle LOS Score for Intersection	2.866		2.827		4.132		2.969	
Bicycle LOS	C		C		D		C	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	35.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.813

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1001	385	485	1080	0	530	4	441	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	96	0	0	0	0	0	110	0	0	0
Total Hourly Volume [veh/h]	0	1001	289	485	1080	0	530	4	331	0	0	0
Peak Hour Factor	1.0000	0.9630	0.9630	0.9630	0.9630	1.0000	0.9630	0.9630	0.9630	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	260	75	126	280	0	138	1	86	0	0	0
Total Analysis Volume [veh/h]	0	1039	300	504	1121	0	550	4	344	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	20	0	26	46	0	0	24	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	16	16	22	42	20	20	
g / C, Green / Cycle	0.23	0.23	0.31	0.60	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.20	0.31	0.33	0.27	0.29	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1572	
c, Capacity [veh/h]	1124	351	508	2057	463	449	
d1, Uniform Delay [s]	26.47	25.95	24.00	8.34	24.65	25.09	
k, delay calibration	0.50	0.50	0.25	0.50	0.19	0.22	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	13.86	22.50	26.29	1.04	16.84	31.57	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.92	0.86	0.99	0.54	0.96	1.01	
d, Delay for Lane Group [s/veh]	40.33	48.45	50.29	9.38	41.48	56.65	
Lane Group LOS	D	D	D	A	D	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.78	6.72	11.38	4.38	8.87	10.88	
50th-Percentile Queue Length [ft/ln]	169.40	168.04	284.47	109.57	221.77	271.95	
95th-Percentile Queue Length [veh/ln]	11.04	10.97	16.91	7.82	13.76	16.43	
95th-Percentile Queue Length [ft/ln]	276.12	274.34	422.78	195.41	343.89	410.70	

**Movement, Approach, & Intersection Results**

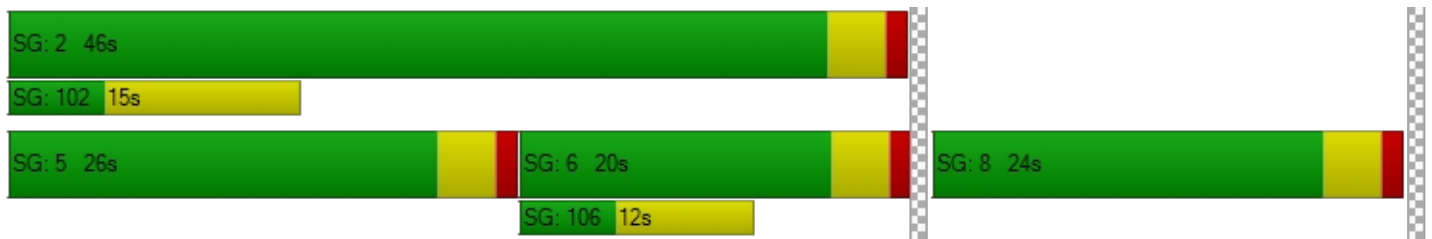
d_M, Delay for Movement [s/veh]	0.00	40.33	48.45	50.29	9.38	0.00	44.34	56.65	56.65	0.00	0.00	0.00
Movement LOS		D	D	D	A		D	E	E			
d_A, Approach Delay [s/veh]		42.15		22.07			49.18			0.00		
Approach LOS		D		C			D			A		
d_I, Intersection Delay [s/veh]	35.34											
Intersection LOS	D											
Intersection V/C	0.813											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00		0.00			26.58			26.58		
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000			2.413			2.144		
Crosswalk LOS	F		F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000		2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	457		1200			571			0		
d_b, Bicycle Delay [s]	20.83		5.60			17.86			35.00		
I_b,int, Bicycle LOS Score for Intersection	2.349		2.900			3.223			4.132		
Bicycle LOS	B		C			C			D		

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	5	1205	4	80	1236	190	92	0	32	0	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	48	0	0	8	0	0	25
Total Hourly Volume [veh/h]	5	1205	3	80	1236	142	92	0	24	0	0	74
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	320	1	21	328	38	24	0	6	0	0	20
Total Analysis Volume [veh/h]	5	1279	3	85	1312	151	98	0	25	0	0	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	12	19	0	0	42	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	55	47	47	55	51	51	7	7	7
g / C, Green / Cycle	0.79	0.67	0.67	0.79	0.72	0.72	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.36	0.36	0.15	0.38	0.10	0.07	0.02	0.05
s, saturation flow rate [veh/h]	482	1800	1799	570	3427	1530	1341	1530	1530
c, Capacity [veh/h]	447	1208	1207	512	2474	1105	137	151	202
d1, Uniform Delay [s]	2.86	5.90	5.90	3.35	4.39	3.01	30.86	28.96	30.04
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	1.67	1.68	0.70	0.82	0.26	6.75	0.51	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	0.53	0.53	0.17	0.53	0.14	0.71	0.17	0.39
d, Delay for Lane Group [s/veh]	2.87	7.57	7.58	4.05	5.21	3.27	37.61	29.47	31.27
Lane Group LOS	A	A	A	A	A	A	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.01	4.05	4.05	0.21	2.94	0.50	1.81	0.39	1.29
50th-Percentile Queue Length [ft/ln]	0.19	101.18	101.13	5.29	73.59	12.47	45.35	9.85	32.27
95th-Percentile Queue Length [veh/ln]	0.01	7.29	7.28	0.38	5.30	0.90	3.27	0.71	2.32
95th-Percentile Queue Length [ft/ln]	0.34	182.13	182.03	9.51	132.47	22.45	81.64	17.74	58.08

**Movement, Approach, & Intersection Results**

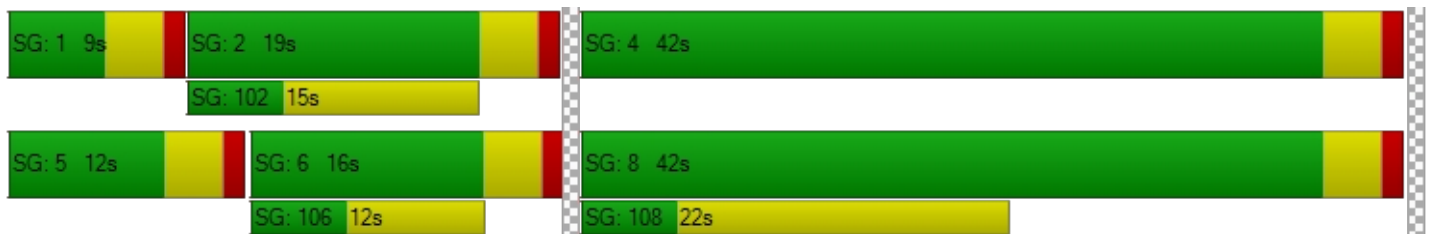
d_M, Delay for Movement [s/veh]	2.87	7.57	7.58	4.05	5.21	3.27	37.61	29.47	29.47	31.27	31.27	31.27
Movement LOS	A	A	A	A	A	A	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.56			4.96			35.96			31.27		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	8.00											
Intersection LOS	A											
Intersection V/C	0.457											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	0.00	26.58	26.58
I_p,int, Pedestrian LOS Score for Intersection	2.804	0.000	2.055	1.918
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	343	429	1086	1086
d_b, Bicycle Delay [s]	24.03	21.61	7.31	7.31
I_b,int, Bicycle LOS Score for Intersection	2.622	2.876	1.776	1.731
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.597

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	32	0	0	14	0	0	47
Total Hourly Volume [veh/h]	99	853	9	200	962	94	169	75	40	10	117	141
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	228	2	53	257	25	45	20	11	3	31	38
Total Analysis Volume [veh/h]	106	910	10	213	1027	100	180	80	43	11	125	150
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	18	36	0	16	26	0	21	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	41	41	14	48	48	12	22	22	1	12	12
g / C, Green / Cycle	0.08	0.43	0.43	0.15	0.50	0.50	0.13	0.24	0.24	0.01	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.07	0.26	0.26	0.13	0.32	0.32	0.11	0.02	0.03	0.01	0.07	0.10
s, saturation flow rate [veh/h]	1619	1800	1793	1619	1800	1745	1619	3427	1530	1619	1800	1530
c, Capacity [veh/h]	132	781	778	239	900	873	205	808	361	24	222	189
d1, Uniform Delay [s]	42.96	20.50	20.50	39.79	17.41	17.45	40.81	28.46	28.60	46.52	39.29	40.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.77	3.26	3.27	10.82	3.40	3.54	11.19	0.05	0.15	13.68	2.23	7.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.59	0.59	0.89	0.63	0.64	0.88	0.10	0.12	0.47	0.56	0.79
d, Delay for Lane Group [s/veh]	53.73	23.76	23.78	50.61	20.81	20.99	52.00	28.51	28.74	60.20	41.52	47.90
Lane Group LOS	D	C	C	D	C	C	D	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.82	8.17	8.14	5.53	9.45	9.25	4.73	0.71	0.78	0.35	2.86	3.76
50th-Percentile Queue Length [ft/ln]	70.52	204.29	203.58	138.33	236.36	231.32	118.14	17.87	19.51	8.65	71.54	93.98
95th-Percentile Queue Length [veh/ln]	5.08	12.86	12.82	9.39	14.50	14.24	8.29	1.29	1.40	0.62	5.15	6.77
95th-Percentile Queue Length [ft/ln]	126.94	321.49	320.58	234.78	362.42	356.04	207.27	32.16	35.11	15.57	128.77	169.16



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	53.73	23.77	23.78	50.61	20.89	20.99	52.00	28.51	28.74	60.20	41.52	47.90
Movement LOS	D	C	C	D	C	C	D	C	C	E	D	D
d_A, Approach Delay [s/veh]	26.86			25.62			42.50			45.59		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	29.72											
Intersection LOS	C											
Intersection V/C	0.597											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	38.93	38.93
I_p,int, Pedestrian LOS Score for Intersection	2.722	2.935	2.713	2.628
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	674	463	568
d_b, Bicycle Delay [s]	25.06	20.89	28.05	24.34
I_b,int, Bicycle LOS Score for Intersection	2.409	2.692	1.821	1.834
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.401

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	18	62	871	53	63	43	47	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	13	0	0	12	0	0	10
Total Hourly Volume [veh/h]	69	780	13	62	871	40	63	43	35	10	65	28
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	203	3	16	227	10	16	11	9	3	17	7
Total Analysis Volume [veh/h]	72	813	14	65	908	42	66	45	36	10	68	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	25	0	9	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	38	38	3	38	38	7	7
g / C, Green / Cycle	0.06	0.63	0.63	0.06	0.63	0.63	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.04	0.27	0.27	0.09	0.06
s, saturation flow rate [veh/h]	1619	1800	1789	1619	1800	1772	1616	1753
c, Capacity [veh/h]	98	1135	1128	93	1129	1112	269	263
d1, Uniform Delay [s]	27.80	5.34	5.34	27.85	5.69	5.69	25.96	25.24
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.26	0.91	0.92	9.21	1.17	1.19	1.72	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.37	0.37	0.70	0.42	0.42	0.55	0.41
d, Delay for Lane Group [s/veh]	38.06	6.25	6.26	37.06	6.86	6.88	27.68	26.25
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.24	2.05	2.04	1.11	2.54	2.50	2.05	1.38
50th-Percentile Queue Length [ft/ln]	31.10	51.31	51.05	27.71	63.40	62.56	51.27	34.54
95th-Percentile Queue Length [veh/ln]	2.24	3.69	3.68	2.00	4.56	4.50	3.69	2.49
95th-Percentile Queue Length [ft/ln]	55.98	92.35	91.88	49.88	114.12	112.61	92.29	62.18

**Movement, Approach, & Intersection Results**

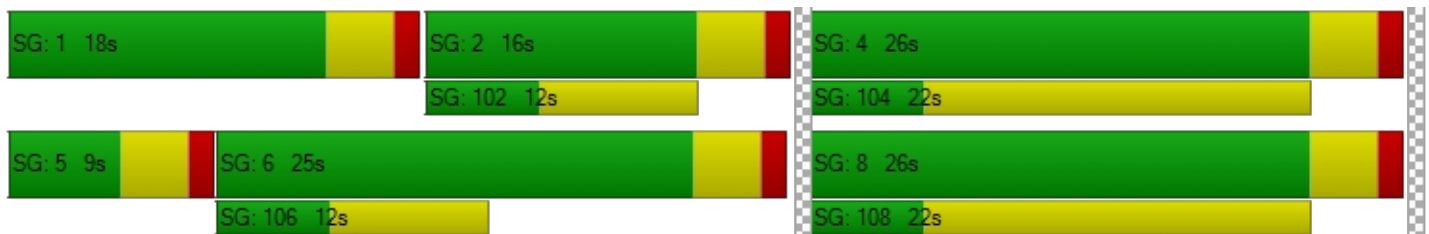
d_M, Delay for Movement [s/veh]	38.06	6.26	6.26	37.06	6.87	6.88	27.68	27.68	27.68	26.25	26.25	26.25
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.80			8.81			27.68			26.25		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	10.95											
Intersection LOS	B											
Intersection V/C	0.401											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.667			2.772			1.885			1.870		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			400			733			733		
d_b, Bicycle Delay [s]	12.68			19.20			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.305			2.408			1.822			1.753		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.948

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	6	0	0	6	0	0	12
Total Hourly Volume [veh/h]	15	745	24	92	811	17	52	34	16	30	37	37
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	203	7	25	221	5	14	9	4	8	10	10
Total Analysis Volume [veh/h]	16	811	26	100	882	18	57	37	17	33	40	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	19	0	20	21	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	32	32	5	35	35	16	16	16	16
g / C, Green / Cycle	0.02	0.49	0.49	0.08	0.55	0.55	0.25	0.25	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.01	0.23	0.23	0.06	0.25	0.25	0.65	0.01	0.27	0.03
s, saturation flow rate [veh/h]	1619	1800	1780	1619	1800	1787	144	1530	267	1530
c, Capacity [veh/h]	31	879	869	126	984	977	125	381	147	381
d1, Uniform Delay [s]	31.57	11.11	11.11	29.45	8.91	8.91	26.55	18.52	20.55	18.81
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.15	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.36	1.87	1.89	10.58	1.54	1.55	33.66	0.05	3.59	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.48	0.48	0.79	0.46	0.46	0.75	0.04	0.50	0.10
d, Delay for Lane Group [s/veh]	43.93	12.98	13.00	40.03	10.45	10.46	60.21	18.57	24.14	18.93
Lane Group LOS	D	B	B	D	B	B	E	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.35	3.96	3.92	1.84	3.63	3.61	2.59	0.19	0.96	0.45
50th-Percentile Queue Length [ft/ln]	8.67	99.04	98.10	45.94	90.79	90.23	64.85	4.70	23.91	11.25
95th-Percentile Queue Length [veh/ln]	0.62	7.13	7.06	3.31	6.54	6.50	4.67	0.34	1.72	0.81
95th-Percentile Queue Length [ft/ln]	15.61	178.27	176.59	82.70	163.43	162.41	116.73	8.46	43.04	20.24

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	43.93	12.99	13.00	40.03	10.46	10.46	60.21	60.21	18.57	24.14	24.14	18.93
Movement LOS	D	B	B	D	B	B	E	E	B	C	C	B
d_A, Approach Delay [s/veh]	13.57			13.42			53.84			22.30		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	16.12											
Intersection LOS	B											
Intersection V/C	0.948											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.12			24.12			24.12			24.12		
I_p,int, Pedestrian LOS Score for Intersection	2.694			2.750			1.998			2.038		
Crosswalk LOS	B			B			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	462			523			677			677		
d_b, Bicycle Delay [s]	19.23			17.72			14.22			14.22		
I_b,int, Bicycle LOS Score for Intersection	2.270			2.390			1.753			1.766		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.357

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↱			↵↱			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	23	755	1	19	805	19	79	29	25	21	16	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	5	0	0	6	0	0	5
Total Hourly Volume [veh/h]	23	755	1	19	805	14	79	29	19	21	16	13
Peak Hour Factor	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	211	0	5	225	4	22	8	5	6	4	4
Total Analysis Volume [veh/h]	26	843	1	21	898	16	88	32	21	23	18	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	40	40	2	40	40	7	7
g / C, Green / Cycle	0.03	0.67	0.67	0.03	0.66	0.66	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.01	0.25	0.25	0.09	0.03
s, saturation flow rate [veh/h]	1619	1800	1799	1619	1800	1789	1628	1717
c, Capacity [veh/h]	49	1197	1196	42	1188	1181	276	273
d1, Uniform Delay [s]	28.70	4.41	4.41	28.89	4.66	4.66	25.92	24.61
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.48	0.82	0.82	9.12	0.95	0.95	1.46	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.35	0.35	0.50	0.39	0.39	0.51	0.21
d, Delay for Lane Group [s/veh]	37.18	5.23	5.23	38.01	5.61	5.61	27.39	24.98
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	1.75	1.75	0.39	2.01	2.00	1.95	0.72
50th-Percentile Queue Length [ft/ln]	11.68	43.74	43.73	9.75	50.25	49.99	48.80	18.04
95th-Percentile Queue Length [veh/ln]	0.84	3.15	3.15	0.70	3.62	3.60	3.51	1.30
95th-Percentile Queue Length [ft/ln]	21.03	78.74	78.71	17.55	90.45	89.98	87.84	32.47

**Movement, Approach, & Intersection Results**

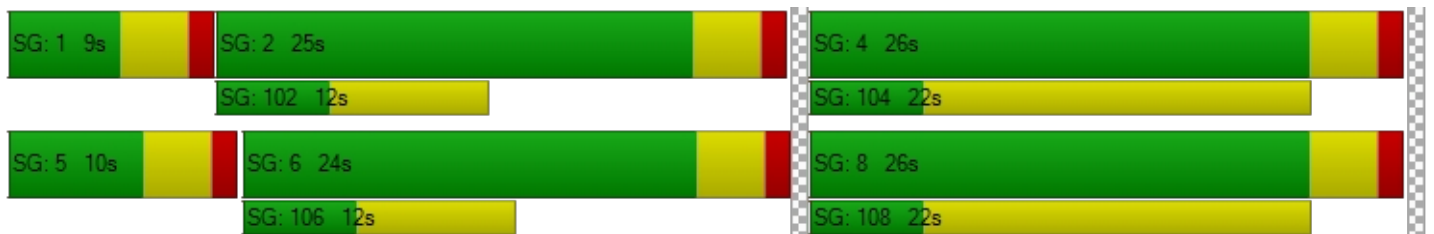
d_M, Delay for Movement [s/veh]	37.18	5.23	5.23	38.01	5.61	5.61	27.39	27.39	27.39	24.98	24.98	24.98
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.18			6.34			27.39			24.98		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.27											
Intersection LOS	A											
Intersection V/C	0.357											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.668			2.782			1.807			1.759		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	667			700			733			733		
d_b, Bicycle Delay [s]	13.33			12.68			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.277			2.335			1.802			1.660		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	7.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.333

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	38	677	7	14	808	23	34	12	75	43	11	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	6	0	0	19	0	0	3
Total Hourly Volume [veh/h]	38	677	5	14	808	17	34	12	56	43	11	9
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	180	1	4	215	5	9	3	15	11	3	2
Total Analysis Volume [veh/h]	40	721	5	15	860	18	36	13	60	46	12	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	42	42	1	41	41	5	5
g / C, Green / Cycle	0.04	0.70	0.70	0.02	0.68	0.68	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.02	0.20	0.20	0.01	0.24	0.24	0.06	0.04
s, saturation flow rate [veh/h]	1619	1800	1796	1619	1800	1787	1704	1605
c, Capacity [veh/h]	68	1255	1252	32	1215	1206	222	234
d1, Uniform Delay [s]	28.29	3.45	3.45	29.15	4.20	4.20	26.94	26.32
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.03	0.58	0.58	10.63	0.84	0.85	1.68	0.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.59	0.29	0.29	0.47	0.36	0.36	0.49	0.29
d, Delay for Lane Group [s/veh]	36.32	4.03	4.03	39.78	5.04	5.04	28.61	27.00
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.69	1.18	1.18	0.30	1.75	1.74	1.55	0.93
50th-Percentile Queue Length [ft/ln]	17.20	29.47	29.41	7.44	43.71	43.45	38.69	23.13
95th-Percentile Queue Length [veh/ln]	1.24	2.12	2.12	0.54	3.15	3.13	2.79	1.67
95th-Percentile Queue Length [ft/ln]	30.97	53.04	52.94	13.38	78.68	78.21	69.64	41.64

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	36.32	4.03	4.03	39.78	5.04	5.04	28.61	28.61	28.61	27.00	27.00	27.00
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.72			5.63			28.61			27.00		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.82											
Intersection LOS	A											
Intersection V/C	0.333											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.691			2.666			1.822			1.751		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	667			700			733			733		
d_b, Bicycle Delay [s]	13.33			12.68			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.193			2.301			1.771			1.677		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.465

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	630	97	129	806	5	8	0	9	141	1	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	24	0	0	1	0	0	2	0	0	11
Total Hourly Volume [veh/h]	4	630	73	129	806	4	8	0	7	141	1	34
Peak Hour Factor	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	178	21	37	228	1	2	0	2	40	0	10
Total Analysis Volume [veh/h]	5	713	83	146	913	5	9	0	8	160	1	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	20	0	14	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	31	31	7	37	37	11	11	11
g / C, Green / Cycle	0.01	0.51	0.51	0.11	0.62	0.62	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.00	0.23	0.23	0.09	0.26	0.26	0.06	0.15	0.03
s, saturation flow rate [veh/h]	1619	1800	1735	1619	1800	1797	278	1076	1530
c, Capacity [veh/h]	11	920	887	182	1109	1107	141	310	271
d1, Uniform Delay [s]	29.69	9.26	9.26	26.00	5.93	5.93	21.20	23.91	20.86
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.36	1.53	1.59	8.06	1.14	1.14	0.38	1.35	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.44	0.44	0.80	0.41	0.41	0.12	0.52	0.14
d, Delay for Lane Group [s/veh]	55.05	10.79	10.85	34.07	7.08	7.08	21.58	25.26	21.11
Lane Group LOS	E	B	B	C	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.15	3.15	3.06	2.32	2.53	2.53	0.20	2.16	0.45
50th-Percentile Queue Length [ft/ln]	3.69	78.87	76.48	57.98	63.29	63.19	5.01	54.10	11.27
95th-Percentile Queue Length [veh/ln]	0.27	5.68	5.51	4.17	4.56	4.55	0.36	3.90	0.81
95th-Percentile Queue Length [ft/ln]	6.64	141.96	137.67	104.37	113.93	113.74	9.02	97.39	20.29

**Movement, Approach, & Intersection Results**

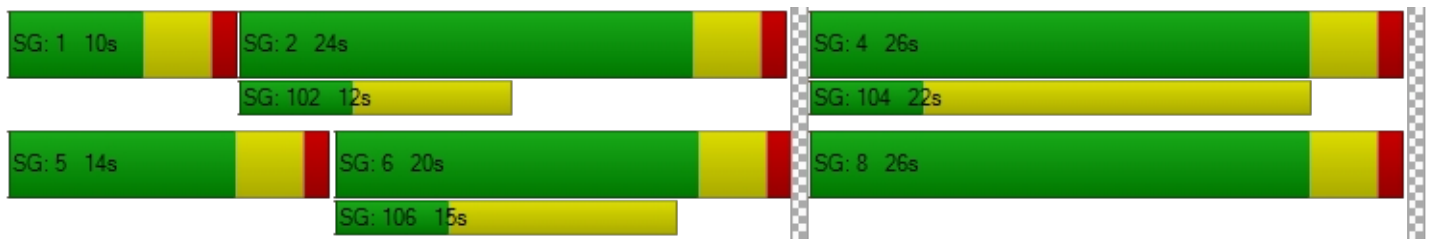
d_M, Delay for Movement [s/veh]	55.05	10.81	10.85	34.07	7.08	7.08	21.58	21.58	21.58	25.26	25.26	21.11
Movement LOS	E	B	B	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.09			10.78			21.58			24.45		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	12.30											
Intersection LOS	B											
Intersection V/C	0.465											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.653			1.713			2.087		
Crosswalk LOS	F			B			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			667			733			733		
d_b, Bicycle Delay [s]	16.13			13.33			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.240			2.438			1.591			1.908		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	36.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	88	0	0	7	0	0	7	0	0	120
Total Hourly Volume [veh/h]	41	267	265	466	380	19	28	65	19	211	99	361
Peak Hour Factor	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	76	76	133	108	5	8	19	5	60	28	103
Total Analysis Volume [veh/h]	47	305	303	532	434	22	32	74	22	241	113	412
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	37	21	0	30	14	0	0	9	0	0	20	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	18	18	25	40	40	5	5	16
g / C, Green / Cycle	0.04	0.22	0.22	0.31	0.50	0.50	0.06	0.06	0.20
(v / s)_i Volume / Saturation Flow Rate	0.03	0.08	0.19	0.29	0.12	0.01	0.02	0.05	0.19
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1826	1837
c, Capacity [veh/h]	75	816	364	569	1804	805	109	110	368
d1, Uniform Delay [s]	37.79	26.24	29.57	26.67	11.44	10.21	36.01	37.33	31.75
k, delay calibration	0.11	0.50	0.50	0.29	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.37	1.31	19.45	16.92	0.32	0.06	1.47	18.30	14.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.63	0.37	0.83	0.94	0.24	0.03	0.29	0.87	0.96
d, Delay for Lane Group [s/veh]	46.16	27.55	49.02	43.59	11.76	10.27	37.48	55.64	46.39
Lane Group LOS	D	C	D	D	B	B	D	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.06	2.54	7.32	12.00	2.12	0.20	0.63	2.38	8.03
50th-Percentile Queue Length [ft/ln]	26.59	63.47	183.03	299.89	53.02	4.97	15.77	59.56	200.77
95th-Percentile Queue Length [veh/ln]	1.91	4.57	11.76	17.68	3.82	0.36	1.14	4.29	12.68
95th-Percentile Queue Length [ft/ln]	47.87	114.25	293.96	441.89	95.44	8.94	28.38	107.22	316.95

**Movement, Approach, & Intersection Results**

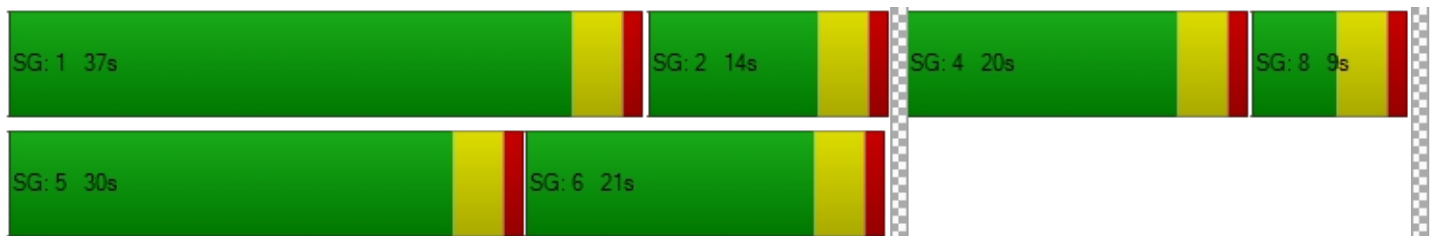
d_M, Delay for Movement [s/veh]	46.16	27.55	49.02	43.59	11.76	10.27	37.48	55.64	55.64	46.39	46.39	0.00
Movement LOS	D	C	D	D	B	B	D	E	E	D	D	
d_A, Approach Delay [s/veh]	38.82			28.86			51.10			46.39		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	36.19											
Intersection LOS	D											
Intersection V/C	0.727											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	425			250			125			400		
d_b, Bicycle Delay [s]	24.81			30.63			35.16			25.60		
I_b,int, Bicycle LOS Score for Intersection	2.173			2.380			1.782			2.144		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		



**Volumes**

Name												
Base Volume Input [veh/h]	9	5	5	163	17	227	359	505	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	57	0	0	5	0	0	55
Total Hourly Volume [veh/h]	9	5	4	163	17	170	359	505	16	5	551	166
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	45	5	47	99	140	4	1	152	46
Total Analysis Volume [veh/h]	10	6	4	180	19	188	397	559	18	6	610	184
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	26	35	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	18	33	33	1	15	15
g / C, Green / Cycle	0.39	0.39	0.39	0.25	0.44	0.44	0.01	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.12	0.22	0.15	0.01	0.00	0.17	0.11
s, saturation flow rate [veh/h]	1050	1281	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	484	594	634	444	1586	708	17	732	327
d1, Uniform Delay [s]	14.71	16.91	15.69	27.38	14.01	11.98	36.97	28.75	26.97
k, delay calibration	0.50	0.50	0.50	0.12	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.16	1.52	1.19	7.08	0.13	0.01	11.89	2.58	1.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.04	0.33	0.30	0.89	0.35	0.03	0.35	0.83	0.56
d, Delay for Lane Group [s/veh]	14.87	18.43	16.88	34.45	14.14	11.99	48.86	31.33	28.50
Lane Group LOS	B	B	B	C	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.22	2.63	2.29	7.41	2.94	0.16	0.16	5.31	2.99
50th-Percentile Queue Length [ft/ln]	5.48	65.75	57.26	185.26	73.60	4.08	4.08	132.63	74.83
95th-Percentile Queue Length [veh/ln]	0.39	4.73	4.12	11.87	5.30	0.29	0.29	9.08	5.39
95th-Percentile Queue Length [ft/ln]	9.87	118.35	103.06	296.87	132.48	7.35	7.35	227.07	134.69

**Movement, Approach, & Intersection Results**

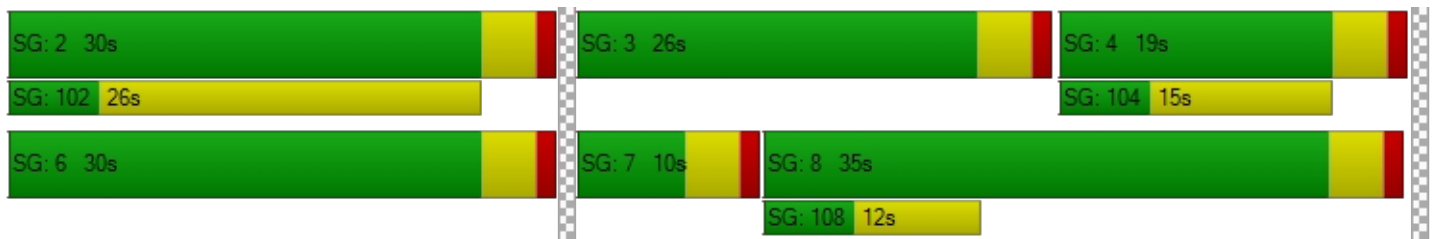
d_M, Delay for Movement [s/veh]	14.87	14.87	14.87	18.43	18.43	16.88	34.45	14.14	11.99	48.86	31.33	28.50
Movement LOS	B	B	B	B	B	B	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	14.87			17.68			22.38			30.81		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	24.57											
Intersection LOS	C											
Intersection V/C	0.543											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.04	29.04	29.04	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.742	2.367	2.766	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	827	400
d_b, Bicycle Delay [s]	16.01	16.01	12.91	24.00
I_b,int, Bicycle LOS Score for Intersection	1.594	2.292	2.367	2.265
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	17.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	21	0	0	5
Total Hourly Volume [veh/h]	57	773	152	30	630	0	4	30	61	101	17	16
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	208	41	8	170	0	1	8	16	27	5	4
Total Analysis Volume [veh/h]	61	834	164	32	680	0	4	32	66	109	18	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	22	0	9	19	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	50	50	3	49	49	5	5	7	7
g / C, Green / Cycle	0.05	0.62	0.62	0.03	0.61	0.61	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.44	0.10	0.02	0.36	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	1810	1750
c, Capacity [veh/h]	87	1178	1001	61	1150	978	118	101	154	149
d1, Uniform Delay [s]	37.62	10.33	6.45	38.14	9.73	0.00	35.95	36.77	35.74	34.27
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.88	3.61	0.35	6.97	2.24	0.00	1.45	7.02	5.92	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.71	0.16	0.53	0.59	0.00	0.31	0.66	0.71	0.24
d, Delay for Lane Group [s/veh]	47.51	13.94	6.80	45.12	11.97	0.00	37.39	43.79	41.66	35.08
Lane Group LOS	D	B	A	D	B	A	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	9.40	1.11	0.72	6.91	0.00	0.71	1.43	2.28	0.66
50th-Percentile Queue Length [ft/ln]	34.86	235.01	27.68	18.11	172.82	0.00	17.70	35.87	57.05	16.45
95th-Percentile Queue Length [veh/ln]	2.51	14.43	1.99	1.30	11.22	0.00	1.27	2.58	4.11	1.18
95th-Percentile Queue Length [ft/ln]	62.75	360.72	49.83	32.60	280.62	0.00	31.85	64.57	102.68	29.61



**Movement, Approach, & Intersection Results**

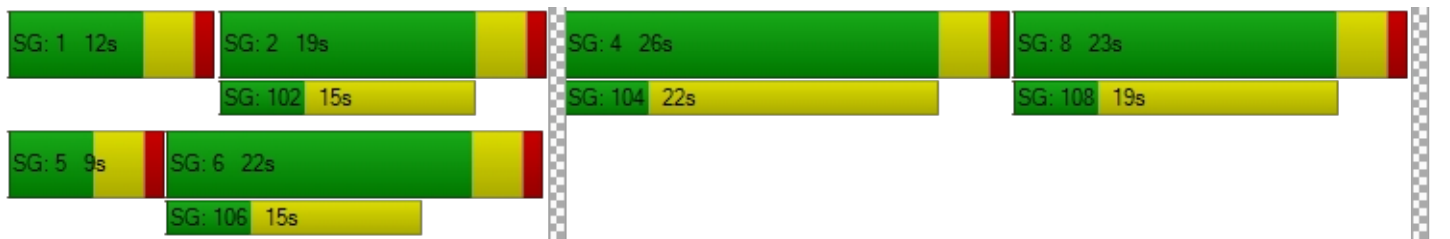
d_M, Delay for Movement [s/veh]	47.51	13.94	6.80	45.12	11.97	0.00	37.39	37.39	43.79	41.66	35.08	35.08
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	14.77			13.46			41.53			40.06		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.46											
Intersection LOS	B											
Intersection V/C	0.558											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
I_p,int, Pedestrian LOS Score for Intersection	2.683	2.602	2.031	2.082
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	450	375	475	550
d_b, Bicycle Delay [s]	24.03	26.41	23.26	21.03
I_b,int, Bicycle LOS Score for Intersection	3.391	2.734	1.763	1.805
Bicycle LOS	C	B	A	A

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1004	197	41	760	0	0	0	9	197	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	49	0	0	0	0	0	2	0	0	11
Total Hourly Volume [veh/h]	30	1004	148	41	760	0	0	0	7	197	5	32
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	277	41	11	210	0	0	0	2	54	1	9
Total Analysis Volume [veh/h]	33	1108	163	45	839	0	0	0	8	217	6	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	25	25	9	20	0	0	10	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	44	44	3	44	44	1	1	7	7	7
g / C, Green / Cycle	0.03	0.62	0.62	0.04	0.63	0.63	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.31	0.10	0.02	0.22	0.22	0.00	0.00	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	65	2243	1001	79	1193	1193	23	20	175	175	156
d1, Uniform Delay [s]	33.26	7.31	5.64	32.95	6.24	6.24	0.00	34.46	30.56	30.56	29.31
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.05	0.78	0.35	6.32	0.82	0.82	0.00	13.19	3.84	3.82	0.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.49	0.16	0.57	0.35	0.35	0.00	0.41	0.64	0.64	0.22
d, Delay for Lane Group [s/veh]	39.31	8.09	5.99	39.27	7.06	7.06	0.00	47.65	34.40	34.38	30.04
Lane Group LOS	D	A	A	D	A	A	A	D	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.64	3.81	0.91	0.87	2.60	2.60	0.00	0.20	1.93	1.94	0.56
50th-Percentile Queue Length [ft/ln]	16.10	95.37	22.70	21.65	64.90	64.90	0.00	5.08	48.37	48.45	13.96
95th-Percentile Queue Length [veh/ln]	1.16	6.87	1.63	1.56	4.67	4.67	0.00	0.37	3.48	3.49	1.01
95th-Percentile Queue Length [ft/ln]	28.98	171.66	40.86	38.97	116.83	116.83	0.00	9.14	87.07	87.22	25.13

**Movement, Approach, & Intersection Results**

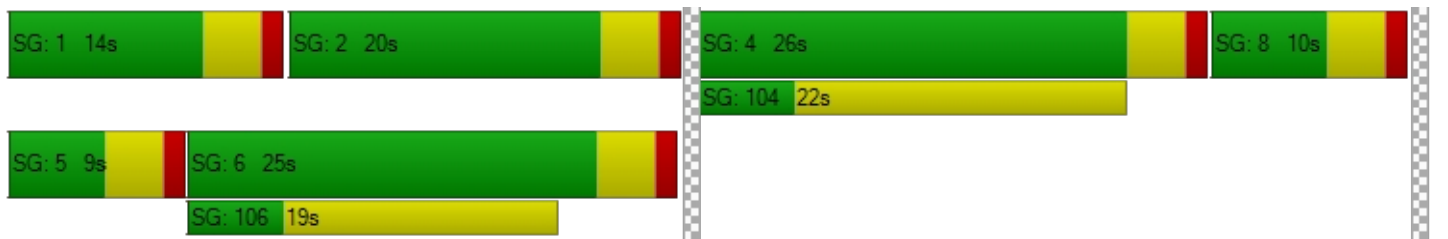
d_M, Delay for Movement [s/veh]	39.31	8.09	5.99	39.27	7.06	7.06	0.00	0.00	47.65	34.39	34.38	30.04
Movement LOS	D	A	A	D	A	A	A	A	D	C	C	C
d_A, Approach Delay [s/veh]	8.62			8.70			47.65			33.80		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	11.42											
Intersection LOS	B											
Intersection V/C	0.398											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.58			0.00			26.58		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.686			0.000			2.264		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			457			171			629		
d_b, Bicycle Delay [s]	17.15			20.83			29.26			16.46		
I_b,int, Bicycle LOS Score for Intersection	2.676			2.289			1.576			2.003		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.413

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	153	260	0	0	831	137	0	0	0	101	0	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	34	0	0	0	0	0	242
Total Hourly Volume [veh/h]	153	260	0	0	831	103	0	0	0	101	0	727
Peak Hour Factor	0.8970	0.8970	1.0000	1.0000	0.8970	0.8970	1.0000	1.0000	1.0000	0.8970	1.0000	0.8970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	72	0	0	232	29	0	0	0	28	0	203
Total Analysis Volume [veh/h]	171	290	0	0	926	115	0	0	0	113	0	810
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	21	0	0	9	0	0	0	0	39	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.60		0.08
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.26		0.06
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	218	2827	2151		155
d1, Uniform Delay [s]	25.70	1.56	6.64		26.84
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	6.12	0.07	0.63		6.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.78	0.10	0.43		0.73
d, Delay for Lane Group [s/veh]	31.83	1.63	7.27		33.32
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.60	0.15	2.59		1.77
50th-Percentile Queue Length [ft/ln]	65.03	3.66	64.63		44.31
95th-Percentile Queue Length [veh/ln]	4.68	0.26	4.65		3.19
95th-Percentile Queue Length [ft/ln]	117.05	6.58	116.33		79.76

**Movement, Approach, & Intersection Results**

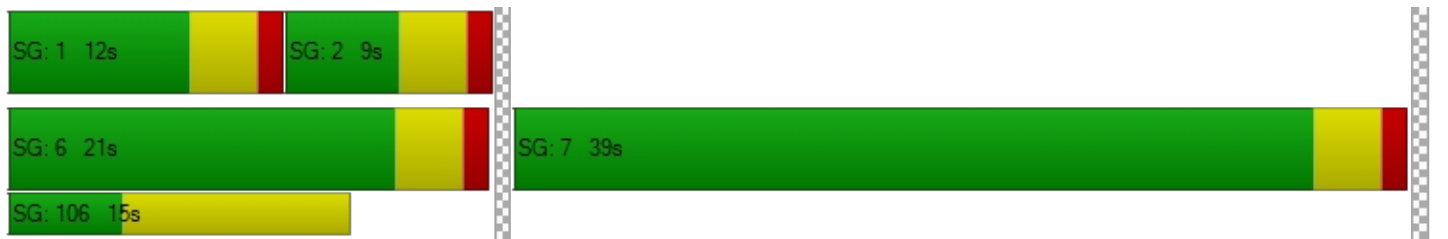
d_M, Delay for Movement [s/veh]	31.83	1.63	0.00	0.00	7.27	0.00	0.00	0.00	0.00	0.00	33.32	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	12.83				7.27				0.00		33.32		
Approach LOS	B				A				A		C		
d_I, Intersection Delay [s/veh]	10.94												
Intersection LOS	B												
Intersection V/C	0.413												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.68	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.958	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	567		167		0		1167	
d_b, Bicycle Delay [s]	15.41		25.21		30.00		5.21	
I_b,int, Bicycle LOS Score for Intersection	1.940		2.324		4.132		1.560	
Bicycle LOS	A		B		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↔			↔↑↑			↔↔↔					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	127	664	265	0	112	0	337	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	32	0	0	0	0	0	84	0	0	0
Total Hourly Volume [veh/h]	0	301	95	664	265	0	112	0	253	0	0	0
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	82	26	180	72	0	30	0	69	0	0	0
Total Analysis Volume [veh/h]	0	327	103	722	288	0	122	0	275	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	36	48	0	12	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	26	44	8	8
g / C, Green / Cycle	0.24	0.43	0.74	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.09	0.40	0.08	0.07	0.10
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859
c, Capacity [veh/h]	857	787	2671	233	368
d1, Uniform Delay [s]	19.25	15.99	2.24	24.49	25.27
k, delay calibration	0.50	0.27	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.29	10.67	0.08	1.82	3.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.38	0.92	0.11	0.52	0.75
d, Delay for Lane Group [s/veh]	20.54	26.66	2.32	26.31	28.31
Lane Group LOS	C	C	A	C	C
Critical Lane Group	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.92	10.22	0.26	1.64	1.93
50th-Percentile Queue Length [ft/ln]	48.00	255.38	6.52	41.11	48.28
95th-Percentile Queue Length [veh/ln]	3.46	15.46	0.47	2.96	3.48
95th-Percentile Queue Length [ft/ln]	86.40	386.43	11.73	74.00	86.90

**Movement, Approach, & Intersection Results**

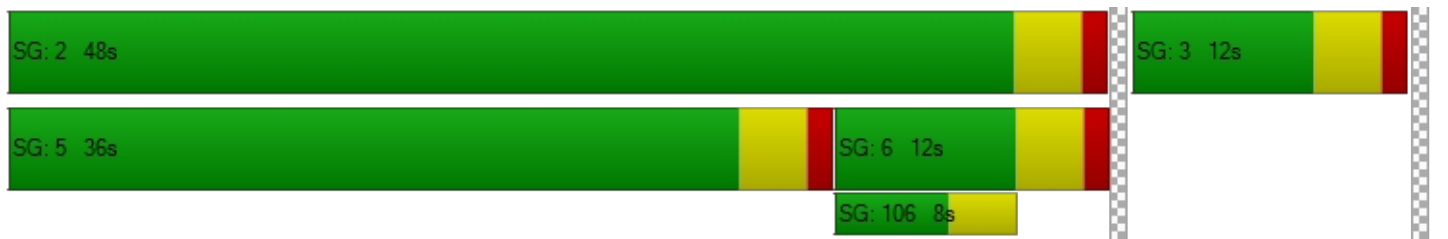
d_M, Delay for Movement [s/veh]	0.00	20.54	0.00	26.66	2.32	0.00	26.31	0.00	28.31	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	20.54			19.72			27.69			0.00		
Approach LOS	C			B			C			A		
d_I, Intersection Delay [s/veh]	21.70											
Intersection LOS	C											
Intersection V/C	0.586											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.68		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.108		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	267			1467			267			0		
d_b, Bicycle Delay [s]	22.53			2.13			22.53			30.00		
I_b,int, Bicycle LOS Score for Intersection	1.829			2.393			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





## Bloomington Business Park Specific Plan

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Scenario 13 Existing AM

Report File: Z:\...\Existing AM.pdf

1/11/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	615	801	308	563	657	1094	1048	519	375	691	6671

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	146	1235	88	550	875	156	190	194	58	49	243	350	4134

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1408	23	56	888	10	63	2448

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	134	1235	35	56	761	65	99	59	41	48	75	90	2698

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	5	3	3	11	0	10	9	177	3	8	203	10	442

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	59	165	30	6	74	5	5	81	74	61	128	19	707

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	208	39	22	177	37	37	520

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	9	8	10	6	12	26	5	110	6	8	172	9	381

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	26	4	1	61	76	6	174

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	5	38	5	14	18	13	1	72	6	3	65	17	257

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	372	1158	1225	1012	339	5	486	4597

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1001	385	485	1080	530	4	441	3926

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	5	1205	4	80	1236	190	92	0	32	0	0	99	2943

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	99	853	12	200	962	126	169	75	54	10	117	188	2865

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	69	780	18	62	871	53	63	43	47	10	65	38	2119

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	15	745	32	92	811	23	52	34	22	30	37	49	1942

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	23	755	1	19	805	19	79	29	25	21	16	18	1810

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	38	677	7	14	808	23	34	12	75	43	11	12	1754

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	630	97	129	806	5	8	0	9	141	1	45	1875

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	41	267	353	466	380	26	28	65	26	211	99	481	2443

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	5	163	17	227	359	505	21	5	551	221	2088

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	57	773	203	30	630	0	4	30	82	101	17	21	1948

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	30	1004	197	41	760	0	0	0	9	197	5	43	2286

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	153	260	831	137	101	969	2451

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	301	127	664	265	112	337	1806

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Intersection 20: Rubidoux Blvd/Market St .....	82
Intersection 21: Agua Mansa Rd/Market St .....	87
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## Bloomington Business Park Specific Plan

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Scenario 14 Existing PM

Report File: Z:\...\Existing PM.pdf

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**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Left	0.679	33.0	C
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.645	38.5	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.351	3.7	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.416	19.9	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.483	11.0	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.927	36.9	E
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.158	21.2	C
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.034	15.8	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.022	10.8	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.312	9.1	A
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	SB Right	0.818	29.0	C
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.745	24.6	C
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.521	12.8	B
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	0.629	32.3	C
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.536	16.6	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	NB Left	0.902	24.3	C
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	NB Left	0.385	8.9	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.498	15.4	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.636	18.9	B
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	NB Left	0.752	42.4	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.536	23.5	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.703	34.7	C
23	Market St/Rivera St	Signalized	HCM 6th Edition	NB Left	0.385	14.0	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.479	10.9	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.653	20.2	C





V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.



**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	33.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.679

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	475	1171	571	592	946	882	976	0	525	479	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	221	0	0	131	0	0	151
Total Hourly Volume [veh/h]	475	1171	428	592	946	661	976	0	394	479	0	454
Peak Hour Factor	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	1.0000	0.9910	0.9910	1.0000	0.9910
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	120	295	108	149	239	167	246	0	99	121	0	115
Total Analysis Volume [veh/h]	479	1182	432	597	955	667	985	0	398	483	0	458
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	2		4		3		3		3		3	
v_ci, Inbound Pedestrian Volume crossing mi	3		3		4		2		2		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		0		0		0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	25	32	0	25	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	40	20	43	33	33
g / C, Green / Cycle	0.16	0.38	0.19	0.41	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.14	0.23	0.17	0.18	0.28	0.14
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	560	1988	664	2142	1098	1098
d1, Uniform Delay [s]	42.93	25.80	41.57	22.11	34.46	28.75
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.87	1.32	4.70	0.67	2.90	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.86	0.59	0.90	0.45	0.90	0.44
d, Delay for Lane Group [s/veh]	46.81	27.12	46.28	22.79	37.36	29.03
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.18	7.71	7.82	5.59	11.09	4.40
50th-Percentile Queue Length [ft/ln]	154.41	192.68	195.54	139.74	277.33	110.00
95th-Percentile Queue Length [veh/ln]	10.25	12.26	12.41	9.47	16.56	7.84
95th-Percentile Queue Length [ft/ln]	256.31	306.51	310.21	236.67	413.88	196.00

**Movement, Approach, & Intersection Results**

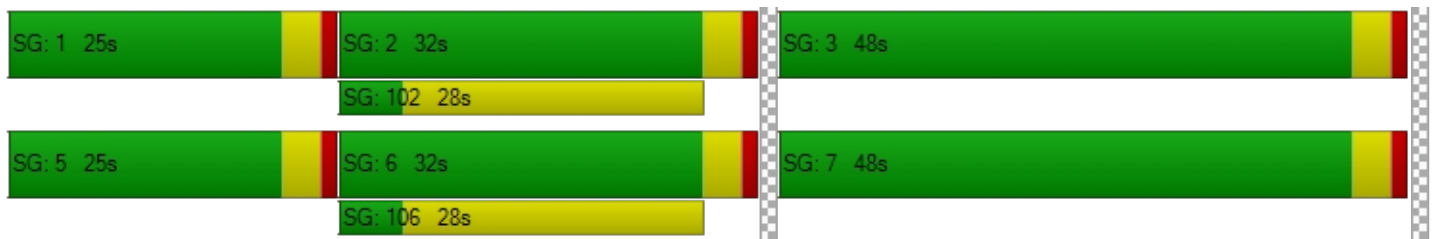
d_M, Delay for Movement [s/veh]	46.81	27.12	0.00	46.28	22.79	0.00	37.36	0.00	0.00	29.03	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	32.80			31.82			37.36			29.03		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	33.05											
Intersection LOS	C											
Intersection V/C	0.679											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			43.89			43.89		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.977			2.842		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			533			838			838		
d_b, Bicycle Delay [s]	28.23			28.23			17.72			17.72		
I_b,int, Bicycle LOS Score for Intersection	2.473			2.413			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	38.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	1262	183	675	1117	134	308	523	80	181	307	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	46	0	0	34	0	0	20	0	0	177
Total Hourly Volume [veh/h]	166	1262	137	675	1117	100	308	523	60	181	307	530
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	325	35	174	288	26	79	135	15	47	79	137
Total Analysis Volume [veh/h]	171	1301	141	696	1152	103	318	539	62	187	316	546
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	23	40	0	31	48	0	19	40	0	19	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	56	56	27	74	74	14	22	22	9	18	49
g / C, Green / Cycle	0.07	0.43	0.43	0.21	0.57	0.57	0.11	0.17	0.17	0.07	0.13	0.37
(v / s)_i Volume / Saturation Flow Rate	0.05	0.21	0.21	0.20	0.23	0.23	0.09	0.15	0.04	0.05	0.09	0.19
s, saturation flow rate [veh/h]	3514	5176	1780	3514	3618	1821	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	231	2218	763	730	2064	1039	372	618	276	246	488	1067
d1, Uniform Delay [s]	59.63	26.78	26.79	50.88	15.59	15.61	57.15	52.53	46.49	59.40	53.32	31.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.58	0.76	2.20	7.91	0.59	1.18	5.68	4.02	0.41	4.84	1.45	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.48	0.48	0.95	0.40	0.41	0.86	0.87	0.22	0.76	0.65	0.51
d, Delay for Lane Group [s/veh]	64.22	27.54	28.99	58.79	16.18	16.79	62.83	56.55	46.90	64.24	54.77	31.94
Lane Group LOS	E	C	C	E	B	B	E	E	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.84	7.75	8.32	11.77	6.75	7.01	5.32	8.70	1.73	3.11	4.85	6.42
50th-Percentile Queue Length [ft/ln]	70.98	193.66	207.90	294.25	168.77	175.21	132.91	217.51	43.31	77.71	121.30	160.39
95th-Percentile Queue Length [veh/ln]	5.11	12.31	13.05	17.40	11.01	11.35	9.10	13.54	3.12	5.60	8.46	10.57
95th-Percentile Queue Length [ft/ln]	127.77	307.77	326.14	434.91	275.29	283.75	227.44	338.45	77.96	139.89	211.61	264.24

**Movement, Approach, & Intersection Results**

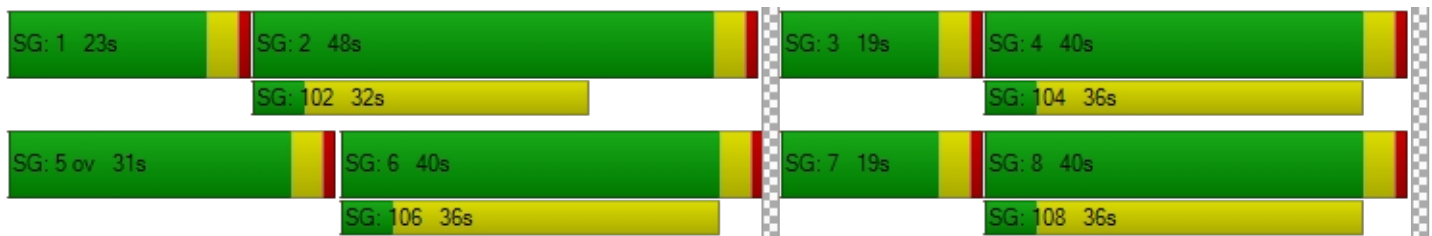
d_M, Delay for Movement [s/veh]	64.22	27.79	28.99	58.79	16.34	16.79	62.83	56.55	46.90	64.24	54.77	31.94
Movement LOS	E	C	C	E	B	B	E	E	D	E	D	C
d_A, Approach Delay [s/veh]	31.76			31.51			58.07			44.58		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	38.47											
Intersection LOS	D											
Intersection V/C	0.645											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	3.490	3.542	3.059	3.598
Crosswalk LOS	C	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	677	554	554
d_b, Bicycle Delay [s]	33.98	28.45	33.98	33.98
I_b,int, Bicycle LOS Score for Intersection	2.244	2.651	2.334	2.571
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	3.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.351

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1569	13	48	1343	9	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	3	0	0	0	13
Total Hourly Volume [veh/h]	1569	10	48	1343	9	38
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	404	3	12	346	2	10
Total Analysis Volume [veh/h]	1618	10	49	1385	9	39
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	39	0	9	48	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	3	74	3	3
g / C, Green / Cycle	0.78	0.78	0.04	0.87	0.04	0.04
(v / s)_i Volume / Saturation Flow Rate	0.31	0.01	0.01	0.27	0.00	0.02
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4017	1253	146	4476	75	67
d1, Uniform Delay [s]	3.10	2.15	39.62	1.06	39.30	40.07
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.01	1.33	0.18	0.72	7.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.40	0.01	0.33	0.31	0.12	0.59
d, Delay for Lane Group [s/veh]	3.40	2.16	40.95	1.24	40.01	48.01
Lane Group LOS	A	A	D	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.26	0.02	0.52	0.26	0.19	0.94
50th-Percentile Queue Length [ft/ln]	31.57	0.47	12.96	6.53	4.84	23.43
95th-Percentile Queue Length [veh/ln]	2.27	0.03	0.93	0.47	0.35	1.69
95th-Percentile Queue Length [ft/ln]	56.83	0.84	23.32	11.75	8.72	42.18

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.40	2.16	40.95	1.24	40.01	48.01
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	3.40		2.60		46.51	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.69					
Intersection LOS	A					
Intersection V/C	0.351					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	33.98	33.98
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.102	2.178
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	824	1035	776
d_b, Bicycle Delay [s]	14.71	9.89	15.91
I_b,int, Bicycle LOS Score for Intersection	2.457	2.348	1.560
Bicycle LOS	B	B	A

**Sequence**


Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.416

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	163	1298	43	104	1127	97	155	135	124	99	118	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	24	0	0	31	0	0	25
Total Hourly Volume [veh/h]	163	1298	32	104	1127	73	155	135	93	99	118	73
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	328	8	26	285	18	39	34	23	25	30	18
Total Analysis Volume [veh/h]	165	1311	32	105	1138	74	157	136	94	100	119	74
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	31	0	9	30	0	14	40	0	10	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	53	53	5	52	52	10	10	10	6	6	6
g / C, Green / Cycle	0.07	0.59	0.59	0.05	0.58	0.58	0.11	0.11	0.11	0.07	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.02	0.03	0.22	0.22	0.09	0.04	0.06	0.06	0.03	0.05
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1841	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	237	3062	955	185	2086	1062	193	401	179	122	260	116
d1, Uniform Delay [s]	41.13	10.07	7.67	41.71	10.38	10.39	39.42	37.05	37.86	41.50	40.17	40.71
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.63	0.44	0.07	2.72	0.54	1.06	8.09	0.50	2.38	12.40	1.26	5.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.69	0.43	0.03	0.57	0.38	0.39	0.81	0.34	0.53	0.82	0.46	0.64
d, Delay for Lane Group [s/veh]	44.77	10.51	7.74	44.43	10.92	11.44	47.51	37.55	40.25	53.90	41.43	46.43
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.89	4.40	0.26	1.20	4.12	4.34	3.78	1.40	2.05	2.59	1.30	1.76
50th-Percentile Queue Length [ft/ln]	47.28	109.89	6.39	29.94	102.92	108.62	94.60	34.94	51.34	64.68	32.45	44.07
95th-Percentile Queue Length [veh/ln]	3.40	7.83	0.46	2.16	7.41	7.76	6.81	2.52	3.70	4.66	2.34	3.17
95th-Percentile Queue Length [ft/ln]	85.10	195.84	11.50	53.89	185.25	194.09	170.28	62.89	92.40	116.42	58.41	79.33

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.77	10.51	7.74	44.43	11.08	11.44	47.51	37.55	40.25	53.90	41.43	46.43
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	14.20			13.76			42.25			46.95		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	19.87											
Intersection LOS	B											
Intersection V/C	0.416											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
l_p,int, Pedestrian LOS Score for Intersection	3.179	3.116	2.628	2.588
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	578	800	711
d_b, Bicycle Delay [s]	22.05	22.76	16.20	18.69
l_b,int, Bicycle LOS Score for Intersection	2.395	2.297	1.904	1.822
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	6	25	7	9	11	360	6	9	305	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	9	6	25	7	9	11	360	6	9	305	17
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	7	2	2	3	94	2	2	79	4
Total Analysis Volume [veh/h]	1	9	6	26	7	9	11	375	6	9	317	18
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	667	650	813	808
Degree of Utilization, x	0.02	0.06	0.48	0.43

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.07	0.21	2.66	2.15
95th-Percentile Queue Length [ft]	1.84	5.17	66.57	53.66
Approach Delay [s/veh]	8.52	8.93	11.49	10.72
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	10.96			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	36.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.927

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	70	17	4	57	3	2	58	42	10	50	8
Total Analysis Volume [veh/h]	102	278	68	18	230	10	8	233	168	40	202	30
Pedestrian Volume [ped/h]	0			0			0			0		

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**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	483	442	485	445
Degree of Utilization, x	0.93	0.58	0.84	0.61

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	10.94	3.64	8.50	3.99
95th-Percentile Queue Length [ft]	273.40	90.98	212.61	99.68
Approach Delay [s/veh]	52.08	21.98	38.81	23.02
Approach LOS	F	C	E	C
Intersection Delay [s/veh]	36.87			
Intersection LOS	E			



**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	21.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.158

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	352	154	59	326	40	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	352	154	59	326	40	46
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	41	16	88	11	12
Total Analysis Volume [veh/h]	379	166	64	351	43	50
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.06	0.00	0.16	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	8.71	0.00	21.17	13.89
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.20	0.20	0.93	0.93
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.94	4.94	23.21	23.21
d_A, Approach Delay [s/veh]	0.00		1.34		17.26	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	2.05					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.034

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	11	8	11	13	16	21	16	269	13	13	249	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	8	11	13	16	21	16	269	13	13	249	22
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	3	3	4	6	4	71	3	3	66	6
Total Analysis Volume [veh/h]	12	8	12	14	17	22	17	285	14	14	264	23
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.02	0.02	0.04	0.04	0.03	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	15.77	14.98	10.39	15.64	15.25	10.62	7.84	0.00	0.00	7.86	0.00	0.00
Movement LOS	C	B	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.23	0.37	0.37	0.37	0.04	0.04	0.04	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	5.68	5.68	5.68	9.24	9.24	9.24	1.00	1.00	1.00	0.83	0.83	0.83
d_A, Approach Delay [s/veh]	13.55			13.43			0.42			0.37		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	13	8	10	210	93	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	8	10	210	93	9
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	2	3	58	26	3
Total Analysis Volume [veh/h]	14	9	11	234	103	10
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.84	8.94	7.44	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.44	2.44	0.56	0.56	0.00	0.00
d_A, Approach Delay [s/veh]	10.10		0.33		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.82					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.312

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	10	13	4	8	47	5	2	24	14
Total Analysis Volume [veh/h]	14	32	10	40	52	16	30	188	21	8	96	54
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	729	735	699	823	693	808
Degree of Utilization, x	0.08	0.15	0.31	0.03	0.15	0.07

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.25	0.51	1.33	0.08	0.53	0.21
95th-Percentile Queue Length [ft]	6.22	12.85	33.23	1.96	13.15	5.36
Approach Delay [s/veh]	8.35	8.75	9.90		8.35	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	9.09					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	29.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.818

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	←			→						+		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	159	0	0	0	0	0	142
Total Hourly Volume [veh/h]	330	1348	0	0	1164	478	0	0	0	346	5	424
Peak Hour Factor	0.9320	0.9320	1.0000	1.0000	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	362	0	0	312	128	0	0	0	93	1	114
Total Analysis Volume [veh/h]	354	1446	0	0	1249	513	0	0	0	371	5	455
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	18	44	0	0	26	0	0	0	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	65	65	65	65		65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	14	40	22	22		17	17
g / C, Green / Cycle	0.22	0.62	0.34	0.34		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.22	0.42	0.25	0.34		0.25	0.26
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1691	1530
c, Capacity [veh/h]	350	2110	1657	517		443	401
d1, Uniform Delay [s]	25.58	8.35	19.20	21.53		23.78	24.09
k, delay calibration	0.11	0.50	0.50	0.50		0.12	0.14
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	24.99	1.84	3.23	37.72		13.76	26.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.01	0.69	0.75	0.99		0.96	1.01
d, Delay for Lane Group [s/veh]	50.57	10.18	22.43	59.25		37.54	50.13
Lane Group LOS	F	B	C	E		D	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	7.48	5.63	5.57	12.43		7.67	8.59
50th-Percentile Queue Length [ft/ln]	187.12	140.84	139.37	310.84		191.68	214.65
95th-Percentile Queue Length [veh/ln]	12.04	9.53	9.45	18.22		12.21	13.46
95th-Percentile Queue Length [ft/ln]	300.89	238.15	236.18	455.41		305.20	336.54

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	50.57	10.18	0.00	0.00	22.43	59.25	0.00	0.00	0.00	37.54	37.54	48.98
Movement LOS	F	B			C	E				D	D	D
d_A, Approach Delay [s/veh]	18.13				33.15		0.00		43.67			
Approach LOS	B				C		A		D			
d_I, Intersection Delay [s/veh]	28.98											
Intersection LOS	C											
Intersection V/C	0.818											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	24.12	24.12
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.202	2.443
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1231	677	0	523
d_b, Bicycle Delay [s]	4.81	14.22	32.50	17.72
I_b,int, Bicycle LOS Score for Intersection	3.045	2.616	4.132	3.165
Bicycle LOS	C	B	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.745

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1162	352	397	1083	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	88	0	0	0	0	0	59	0	0	0
Total Hourly Volume [veh/h]	0	1162	264	397	1083	0	582	2	178	0	0	0
Peak Hour Factor	1.0000	0.9660	0.9660	0.9660	0.9660	1.0000	0.9660	0.9660	0.9660	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	301	68	103	280	0	151	1	46	0	0	0
Total Analysis Volume [veh/h]	0	1203	273	411	1121	0	602	2	184	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	22	0	22	44	0	0	21	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	65	65	65	65	65	65	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	18	18	18	40	17	17	
g / C, Green / Cycle	0.28	0.28	0.28	0.62	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.25	0.18	0.25	0.33	0.24	0.25	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1624	
c, Capacity [veh/h]	1359	424	449	2110	424	425	
d1, Uniform Delay [s]	22.60	20.76	22.86	7.17	23.42	23.56	
k, delay calibration	0.50	0.50	0.12	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	8.74	7.34	8.69	0.96	8.40	10.04	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.89	0.64	0.92	0.53	0.92	0.94	
d, Delay for Lane Group [s/veh]	31.35	28.10	31.55	8.13	31.81	33.60	
Lane Group LOS	C	C	C	A	C	C	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.52	4.25	6.70	3.68	6.36	6.72	
50th-Percentile Queue Length [ft/ln]	162.98	106.33	167.51	91.90	159.03	167.97	
95th-Percentile Queue Length [veh/ln]	10.71	7.64	10.95	6.62	10.50	10.97	
95th-Percentile Queue Length [ft/ln]	267.67	190.88	273.63	165.42	262.44	274.24	

**Movement, Approach, & Intersection Results**

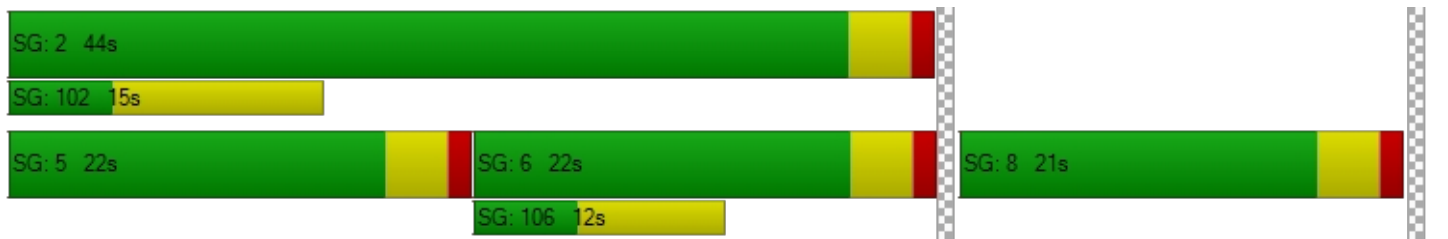
d_M, Delay for Movement [s/veh]	0.00	31.35	28.10	31.55	8.13	0.00	32.44	33.60	33.60	0.00	0.00	0.00
Movement LOS		C	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]		30.75		14.42			32.72		0.00			
Approach LOS		C		B			C		A			
d_I, Intersection Delay [s/veh]	24.57											
Intersection LOS	C											
Intersection V/C	0.745											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		0.00		24.12		24.12
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.284		2.077
Crosswalk LOS	F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	554		1231		523		0
d_b, Bicycle Delay [s]	16.99		4.81		17.72		32.50
I_b,int, Bicycle LOS Score for Intersection	2.420		2.824		2.957		4.132
Bicycle LOS	B		C		C		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	1316	2	39	1056	233	177	4	16	1	2	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	58	0	0	4	0	0	30
Total Hourly Volume [veh/h]	1	1316	1	39	1056	175	177	4	12	1	2	88
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	336	0	10	270	45	45	1	3	0	1	22
Total Analysis Volume [veh/h]	1	1346	1	40	1080	179	181	4	12	1	2	90
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	30	0	9	30	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	37	37	43	39	39	14	14	14
g / C, Green / Cycle	0.67	0.57	0.57	0.67	0.61	0.61	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.00	0.37	0.37	0.07	0.32	0.12	0.14	0.01	0.06
s, saturation flow rate [veh/h]	584	1800	1800	542	3427	1530	1325	1590	1514
c, Capacity [veh/h]	437	991	991	400	2018	901	292	358	397
d1, Uniform Delay [s]	5.20	10.49	10.49	6.81	8.03	6.22	24.11	19.71	20.76
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	3.76	3.76	0.50	1.02	0.49	2.14	0.05	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.00	0.68	0.68	0.10	0.54	0.20	0.62	0.04	0.23
d, Delay for Lane Group [s/veh]	5.21	14.25	14.25	7.31	9.05	6.72	26.25	19.76	21.06
Lane Group LOS	A	B	B	A	A	A	C	B	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.00	6.33	6.33	0.18	3.62	0.98	2.69	0.19	1.16
50th-Percentile Queue Length [ft/ln]	0.08	158.15	158.13	4.56	90.49	24.52	67.28	4.74	29.08
95th-Percentile Queue Length [veh/ln]	0.01	10.45	10.45	0.33	6.52	1.77	4.84	0.34	2.09
95th-Percentile Queue Length [ft/ln]	0.15	261.28	261.24	8.20	162.88	44.13	121.11	8.53	52.35

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	5.21	14.25	14.25	7.31	9.05	6.72	26.25	19.76	19.76	21.06	21.06	21.06
Movement LOS	A	B	B	A	A	A	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	14.24			8.67			25.72			21.06		
Approach LOS	B			A			C			C		
d_I, Intersection Delay [s/veh]	12.76											
Intersection LOS	B											
Intersection V/C	0.521											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	24.12	24.12	24.12
I_p,int, Pedestrian LOS Score for Intersection	2.765	0.000	2.075	1.859
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	677	677
d_b, Bicycle Delay [s]	11.70	11.70	14.22	14.22
I_b,int, Bicycle LOS Score for Intersection	2.673	2.679	1.891	1.763
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	32.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	27	0	0	31	0	0	42
Total Hourly Volume [veh/h]	82	893	19	144	801	81	273	307	93	25	161	127
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	234	5	38	210	21	71	80	24	7	42	33
Total Analysis Volume [veh/h]	86	935	20	151	839	85	286	321	97	26	169	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	14	34	0	21	40	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	41	41	10	45	45	17	26	26	3	11	11
g / C, Green / Cycle	0.06	0.43	0.43	0.11	0.47	0.47	0.18	0.27	0.27	0.03	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.27	0.09	0.26	0.26	0.18	0.09	0.06	0.02	0.09	0.09
s, saturation flow rate [veh/h]	1619	1800	1787	1619	1800	1743	1619	3427	1530	1619	1800	1548
c, Capacity [veh/h]	104	770	764	171	845	818	290	929	415	44	215	185
d1, Uniform Delay [s]	44.02	21.25	21.25	41.95	18.12	18.13	38.93	27.90	27.00	45.74	40.45	40.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.13	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.23	3.78	3.81	13.39	2.63	2.72	23.54	0.22	0.29	11.65	4.81	7.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.83	0.62	0.62	0.88	0.56	0.56	0.99	0.35	0.23	0.59	0.73	0.78
d, Delay for Lane Group [s/veh]	59.25	25.03	25.06	55.34	20.75	20.84	62.48	28.12	27.28	57.39	45.25	47.75
Lane Group LOS	E	C	C	E	C	C	E	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.42	8.79	8.73	4.09	7.67	7.45	8.43	2.93	1.73	0.75	3.81	3.61
50th-Percentile Queue Length [ft/ln]	60.57	219.66	218.20	102.29	191.75	186.21	210.67	73.17	43.20	18.67	95.19	90.23
95th-Percentile Queue Length [veh/ln]	4.36	13.65	13.57	7.36	12.21	11.92	13.19	5.27	3.11	1.34	6.85	6.50
95th-Percentile Queue Length [ft/ln]	109.02	341.20	339.33	184.12	305.30	298.10	329.68	131.71	77.76	33.60	171.35	162.41

**Movement, Approach, & Intersection Results**

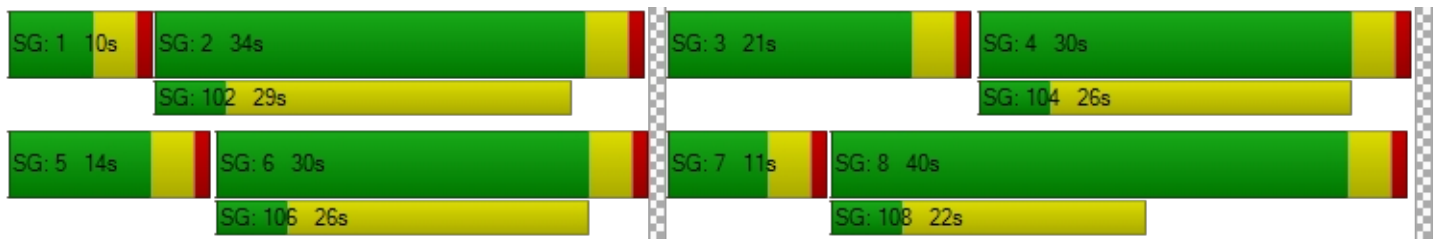
d_M, Delay for Movement [s/veh]	59.25	25.04	25.06	55.34	20.79	20.84	62.48	28.12	27.28	57.39	45.42	47.75
Movement LOS	E	C	C	E	C	C	E	C	C	E	D	D
d_A, Approach Delay [s/veh]	27.87			25.65			41.96			47.32		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	32.29											
Intersection LOS	C											
Intersection V/C	0.629											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	38.93	38.93
I_p,int, Pedestrian LOS Score for Intersection	2.712	2.901	2.796	2.658
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	632	758	547
d_b, Bicycle Delay [s]	25.06	22.24	18.32	25.06
I_b,int, Bicycle LOS Score for Intersection	2.424	2.469	2.166	1.865
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	16.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	110	927	32	76	759	47	75	135	93	26	112	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	12	0	0	23	0	0	14
Total Hourly Volume [veh/h]	110	927	24	76	759	35	75	135	70	26	112	42
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	255	7	21	209	10	21	37	19	7	31	12
Total Analysis Volume [veh/h]	121	1021	26	84	836	39	83	149	77	29	123	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Version 2020 (SP 0-5)

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	18	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	31	31	4	29	29	13	13
g / C, Green / Cycle	0.09	0.51	0.51	0.07	0.48	0.48	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.07	0.29	0.29	0.05	0.24	0.24	0.19	0.12
s, saturation flow rate [veh/h]	1619	1800	1784	1619	1800	1772	1612	1676
c, Capacity [veh/h]	153	920	912	108	870	857	435	442
d1, Uniform Delay [s]	26.65	10.16	10.16	27.62	10.63	10.63	22.33	20.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.75	2.58	2.60	11.12	2.11	2.14	2.16	0.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.79	0.57	0.57	0.77	0.51	0.51	0.71	0.45
d, Delay for Lane Group [s/veh]	35.41	12.74	12.76	38.74	12.74	12.77	24.49	21.25
Lane Group LOS	D	B	B	D	B	B	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.97	4.57	4.54	1.46	3.85	3.80	4.09	2.24
50th-Percentile Queue Length [ft/ln]	49.34	114.21	113.41	36.51	96.34	95.04	102.35	56.05
95th-Percentile Queue Length [veh/ln]	3.55	8.07	8.03	2.63	6.94	6.84	7.37	4.04
95th-Percentile Queue Length [ft/ln]	88.81	201.84	200.74	65.72	173.42	171.07	184.24	100.89



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	35.41	12.75	12.76	38.74	12.75	12.77	24.49	24.49	24.49	21.25	21.25	21.25
Movement LOS	D	B	B	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	15.10			15.03			24.49			21.25		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	16.64											
Intersection LOS	B											
Intersection V/C	0.536											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.751	2.832	2.034	2.027
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	667	733	733
d_b, Bicycle Delay [s]	19.20	13.33	12.03	12.03
I_b,int, Bicycle LOS Score for Intersection	2.530	2.361	2.107	1.909
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	24.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.902

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	12	0	0	12	0	0	19
Total Hourly Volume [veh/h]	58	898	28	101	778	35	39	89	34	45	49	57
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	238	7	27	206	9	10	24	9	12	13	15
Total Analysis Volume [veh/h]	61	951	30	107	824	37	41	94	36	48	52	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	0	9	22	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	21	21	5	23	23	22	22	22	22
g / C, Green / Cycle	0.05	0.35	0.35	0.08	0.38	0.38	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.27	0.07	0.24	0.24	0.37	0.02	0.56	0.04
s, saturation flow rate [veh/h]	1619	1800	1781	1619	1800	1773	370	1530	178	1530
c, Capacity [veh/h]	86	636	629	132	688	677	213	558	154	558
d1, Uniform Delay [s]	27.95	17.28	17.28	27.08	15.10	15.10	15.60	12.39	16.48	12.60
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.25	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.18	8.97	9.06	10.97	4.36	4.43	7.06	0.05	19.39	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.78	0.78	0.81	0.63	0.63	0.63	0.06	0.65	0.11
d, Delay for Lane Group [s/veh]	38.13	26.25	26.34	38.05	19.46	19.52	22.67	12.44	35.88	12.68
Lane Group LOS	D	C	C	D	B	B	C	B	D	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.06	6.96	6.90	1.83	5.08	5.02	1.54	0.29	1.64	0.49
50th-Percentile Queue Length [ft/ln]	26.53	173.91	172.45	45.66	127.00	125.39	38.50	7.27	41.05	12.33
95th-Percentile Queue Length [veh/ln]	1.91	11.28	11.21	3.29	8.78	8.69	2.77	0.52	2.96	0.89
95th-Percentile Queue Length [ft/ln]	47.75	282.04	280.13	82.19	219.40	217.21	69.31	13.09	73.89	22.19

**Movement, Approach, & Intersection Results**

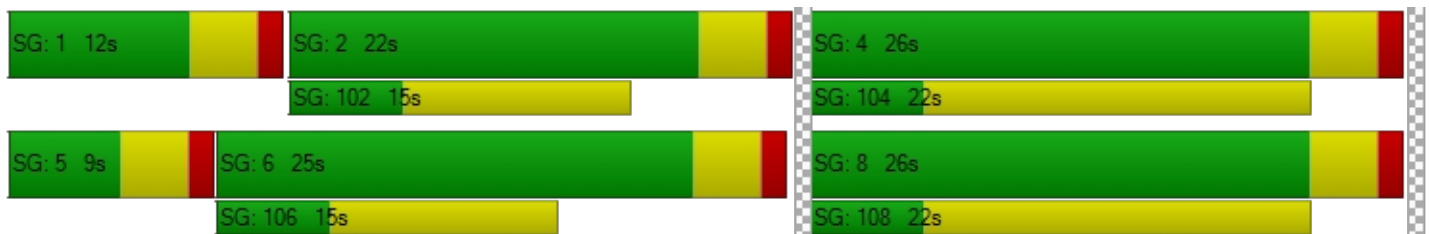
d_M, Delay for Movement [s/veh]	38.13	26.29	26.34	38.05	19.49	19.52	22.67	22.67	12.44	35.88	35.88	12.68
Movement LOS	D	C	C	D	B	B	C	C	B	D	D	B
d_A, Approach Delay [s/veh]	26.99			21.54			20.52			27.18		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.28											
Intersection LOS	C											
Intersection V/C	0.902											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.746	2.756	2.050	2.084
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	700	600	733	733
d_b, Bicycle Delay [s]	12.68	14.70	12.03	12.03
I_b,int, Bicycle LOS Score for Intersection	2.427	2.368	1.862	1.855
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.385

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	51	941	9	39	767	27	63	23	33	18	21	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	7	0	0	8	0	0	4
Total Hourly Volume [veh/h]	51	941	7	39	767	20	63	23	25	18	21	11
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	255	2	11	208	5	17	6	7	5	6	3
Total Analysis Volume [veh/h]	55	1022	8	42	833	22	68	25	27	20	23	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	40	3	39	39	6	6
g / C, Green / Cycle	0.05	0.67	0.67	0.04	0.66	0.66	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.29	0.29	0.03	0.24	0.24	0.07	0.03
s, saturation flow rate [veh/h]	1619	1800	1795	1619	1800	1784	1654	1753
c, Capacity [veh/h]	83	1196	1192	70	1181	1171	248	245
d1, Uniform Delay [s]	28.00	4.75	4.75	28.24	4.66	4.66	26.54	25.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.78	1.14	1.14	8.07	0.87	0.88	1.47	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.66	0.43	0.43	0.60	0.36	0.36	0.48	0.22
d, Delay for Lane Group [s/veh]	36.78	5.88	5.89	36.31	5.53	5.54	28.01	25.99
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.94	2.32	2.32	0.72	1.88	1.86	1.68	0.73
50th-Percentile Queue Length [ft/ln]	23.48	58.02	57.89	18.01	46.92	46.57	42.03	18.20
95th-Percentile Queue Length [veh/ln]	1.69	4.18	4.17	1.30	3.38	3.35	3.03	1.31
95th-Percentile Queue Length [ft/ln]	42.27	104.44	104.20	32.42	84.46	83.82	75.65	32.76

**Movement, Approach, & Intersection Results**

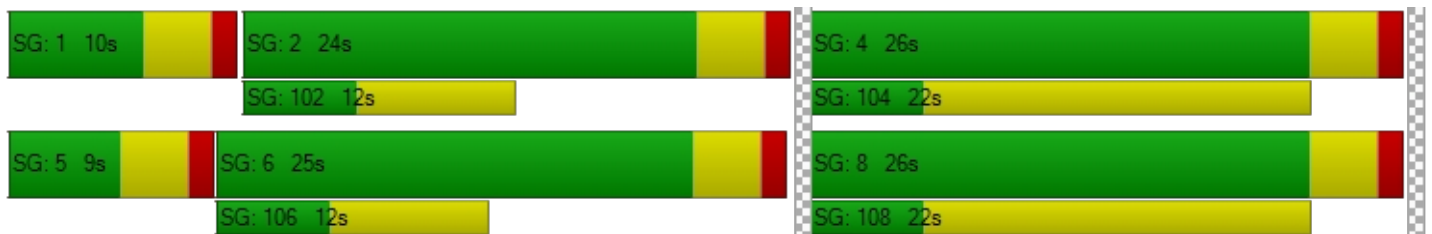
d_M, Delay for Movement [s/veh]	36.78	5.88	5.89	36.31	5.53	5.54	28.01	28.01	28.01	25.99	25.99	25.99
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.45			6.98			28.01			25.99		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.87											
Intersection LOS	A											
Intersection V/C	0.385											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.697			2.779			1.821			1.768		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			667			733			733		
d_b, Bicycle Delay [s]	12.68			13.33			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.456			2.305			1.771			1.657		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.498

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	105	845	14	52	766	14	45	21	284	29	10	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	4	0	0	71	0	0	4
Total Hourly Volume [veh/h]	105	845	10	52	766	10	45	21	213	29	10	13
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	228	3	14	207	3	12	6	57	8	3	4
Total Analysis Volume [veh/h]	113	912	11	56	826	11	49	23	230	31	11	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		0		0		0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	24	0	10	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	31	31	3	29	29	14	14
g / C, Green / Cycle	0.09	0.52	0.52	0.05	0.48	0.48	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.26	0.26	0.03	0.23	0.23	0.20	0.05
s, saturation flow rate [veh/h]	1619	1800	1792	1619	1800	1792	1546	1059
c, Capacity [veh/h]	146	933	929	85	866	862	424	336
d1, Uniform Delay [s]	26.77	9.39	9.39	27.96	10.57	10.57	22.13	18.46
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.44	1.88	1.89	8.24	1.94	1.95	2.23	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.77	0.50	0.50	0.66	0.48	0.48	0.71	0.17
d, Delay for Lane Group [s/veh]	35.21	11.27	11.28	36.20	12.51	12.51	24.36	18.69
Lane Group LOS	D	B	B	D	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.84	3.68	3.66	0.95	3.61	3.60	4.01	0.60
50th-Percentile Queue Length [ft/ln]	45.96	91.96	91.62	23.66	90.29	89.93	100.13	15.00
95th-Percentile Queue Length [veh/ln]	3.31	6.62	6.60	1.70	6.50	6.47	7.21	1.08
95th-Percentile Queue Length [ft/ln]	82.73	165.52	164.92	42.58	162.52	161.87	180.24	26.99

**Movement, Approach, & Intersection Results**

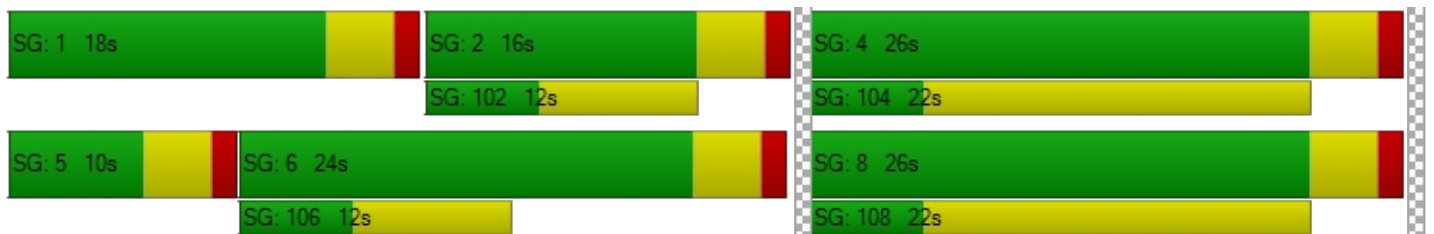
d_M, Delay for Movement [s/veh]	35.21	11.28	11.28	36.20	12.51	12.51	24.36	24.36	24.36	18.69	18.69	18.69
Movement LOS	D	B	B	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	13.89			14.00			24.36			18.69		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	15.43											
Intersection LOS	B											
Intersection V/C	0.498											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.759	2.722	2.046	1.776
Crosswalk LOS	C	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	400	733	733
d_b, Bicycle Delay [s]	13.33	19.20	12.03	12.03
I_b,int, Bicycle LOS Score for Intersection	2.418	2.300	2.175	1.659
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.636

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	822	124	153	826	9	13	7	5	219	9	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	31	0	0	2	0	0	1	0	0	45
Total Hourly Volume [veh/h]	9	822	93	153	826	7	13	7	4	219	9	136
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	230	26	43	231	2	4	2	1	61	3	38
Total Analysis Volume [veh/h]	10	918	104	171	923	8	15	8	4	245	10	152
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	23	0	11	20	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	24	24	7	31	31	17	17	17
g / C, Green / Cycle	0.01	0.41	0.41	0.12	0.51	0.51	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.01	0.29	0.29	0.11	0.26	0.26	0.12	0.24	0.10
s, saturation flow rate [veh/h]	1619	1800	1736	1619	1800	1795	233	1055	1530
c, Capacity [veh/h]	24	730	704	191	915	912	158	410	424
d1, Uniform Delay [s]	29.37	14.96	14.96	26.17	9.81	9.81	17.71	20.75	17.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.00	5.85	6.06	13.63	2.02	2.03	0.51	1.55	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.71	0.71	0.90	0.51	0.51	0.17	0.62	0.36
d, Delay for Lane Group [s/veh]	40.37	20.81	21.02	39.81	11.83	11.84	18.22	22.30	17.96
Lane Group LOS	D	C	C	D	B	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.21	6.34	6.16	2.99	3.86	3.85	0.27	3.26	1.61
50th-Percentile Queue Length [ft/ln]	5.25	158.52	153.97	74.69	96.54	96.29	6.84	81.61	40.18
95th-Percentile Queue Length [veh/ln]	0.38	10.47	10.23	5.38	6.95	6.93	0.49	5.88	2.89
95th-Percentile Queue Length [ft/ln]	9.46	261.76	255.71	134.45	173.77	173.32	12.31	146.90	72.32

**Movement, Approach, & Intersection Results**

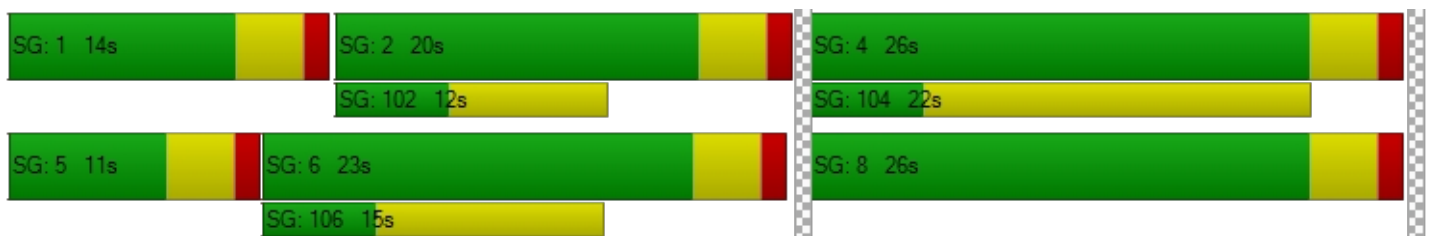
d_M, Delay for Movement [s/veh]	40.37	20.90	21.02	39.81	11.84	11.84	18.22	18.22	18.22	22.30	22.30	17.96
Movement LOS	D	C	C	D	B	B	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	21.10			16.18			18.22			20.68		
Approach LOS	C			B			B			C		
d_I, Intersection Delay [s/veh]	18.89											
Intersection LOS	B											
Intersection V/C	0.636											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.740	1.725	2.234
Crosswalk LOS	F	B	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	533	733	733
d_b, Bicycle Delay [s]	14.01	16.13	12.03	12.03
I_b,int, Bicycle LOS Score for Intersection	2.437	2.470	1.606	2.305
Bicycle LOS	B	B	A	B

**Sequence**





Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	42.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.752

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	99	0	0	6	0	0	4	0	0	131
Total Hourly Volume [veh/h]	16	338	297	534	468	17	29	50	11	229	84	394
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	93	82	147	129	5	8	14	3	63	23	108
Total Analysis Volume [veh/h]	18	372	327	588	515	19	32	55	12	252	93	434
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	53	29	0	45	21	0	0	9	0	0	27	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	29	29	38	64	64	5	5	22
g / C, Green / Cycle	0.02	0.26	0.26	0.34	0.58	0.58	0.05	0.05	0.20
(v / s)_i Volume / Saturation Flow Rate	0.01	0.10	0.20	0.32	0.14	0.01	0.02	0.04	0.19
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1842	1833
c, Capacity [veh/h]	36	939	419	619	2105	940	89	91	374
d1, Uniform Delay [s]	53.40	33.63	37.83	35.29	11.22	9.74	50.63	51.62	42.97
k, delay calibration	0.11	0.50	0.50	0.37	0.50	0.50	0.11	0.11	0.22
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.52	1.25	13.42	21.03	0.28	0.04	2.42	11.08	17.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.50	0.40	0.78	0.95	0.24	0.02	0.36	0.74	0.92
d, Delay for Lane Group [s/veh]	63.92	34.88	51.26	56.31	11.50	9.78	53.06	62.70	60.27
Lane Group LOS	E	C	D	E	B	A	D	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.60	4.26	9.67	18.62	3.06	0.20	0.91	2.10	10.91
50th-Percentile Queue Length [ft/ln]	14.92	106.50	241.64	465.54	76.39	5.02	22.80	52.44	272.82
95th-Percentile Queue Length [veh/ln]	1.07	7.65	14.76	25.70	5.50	0.36	1.64	3.78	16.33
95th-Percentile Queue Length [ft/ln]	26.86	191.13	369.10	642.46	137.50	9.04	41.04	94.38	408.26

**Movement, Approach, & Intersection Results**

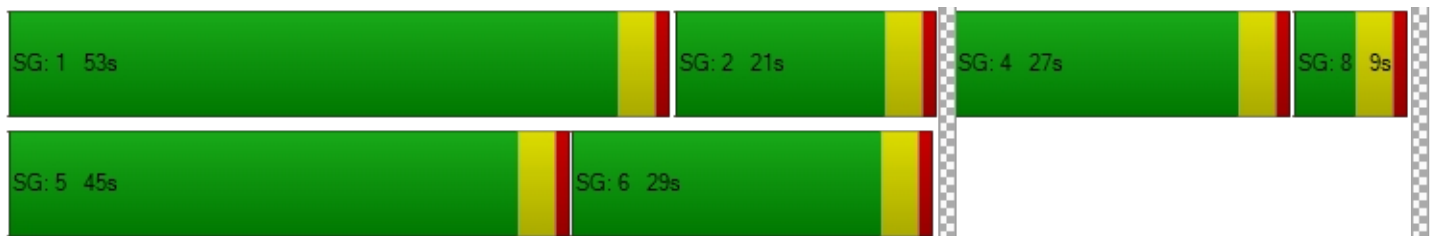
d_M, Delay for Movement [s/veh]	63.92	34.88	51.26	56.31	11.50	9.78	53.06	62.70	62.70	60.27	60.27	0.00
Movement LOS	E	C	D	E	B	A	D	E	E	E	E	
d_A, Approach Delay [s/veh]	43.08			34.95			59.58			60.27		
Approach LOS	D			C			E			E		
d_I, Intersection Delay [s/veh]	42.40											
Intersection LOS	D											
Intersection V/C	0.752											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	455			309			91			418		
d_b, Bicycle Delay [s]	32.84			39.31			50.11			34.40		
I_b,int, Bicycle LOS Score for Intersection	2.233			2.490			1.730			2.129		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	14	7	181	11	293	339	499	9	8	556	266
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	73	0	0	2	0	0	67
Total Hourly Volume [veh/h]	13	14	5	181	11	220	339	499	7	8	556	199
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	1	48	3	58	90	133	2	2	148	53
Total Analysis Volume [veh/h]	14	15	5	192	12	234	360	530	7	9	591	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	21	30	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	16	29	29	1	14	14
g / C, Green / Cycle	0.41	0.41	0.41	0.22	0.41	0.41	0.01	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.14	0.20	0.15	0.00	0.00	0.16	0.13
s, saturation flow rate [veh/h]	1060	1174	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	504	578	658	407	1477	659	24	712	318
d1, Uniform Delay [s]	13.33	15.74	14.40	26.31	14.38	12.33	34.31	27.04	26.02
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	1.69	1.50	6.54	0.15	0.01	9.51	2.59	2.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.07	0.35	0.36	0.89	0.36	0.01	0.38	0.83	0.66
d, Delay for Lane Group [s/veh]	13.59	17.43	15.90	32.85	14.53	12.34	43.83	29.63	28.40
Lane Group LOS	B	B	B	C	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.34	2.53	2.64	6.23	2.71	0.06	0.21	4.76	3.30
50th-Percentile Queue Length [ft/ln]	8.39	63.29	66.03	155.72	67.66	1.54	5.27	118.89	82.56
95th-Percentile Queue Length [veh/ln]	0.60	4.56	4.75	10.32	4.87	0.11	0.38	8.33	5.94
95th-Percentile Queue Length [ft/ln]	15.11	113.93	118.85	258.05	121.78	2.78	9.49	208.31	148.62

**Movement, Approach, & Intersection Results**

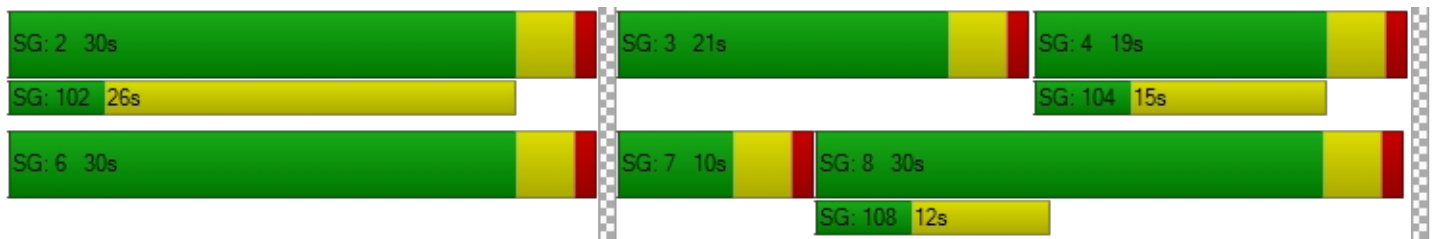
d_M, Delay for Movement [s/veh]	13.59	13.59	13.59	17.43	17.43	15.90	32.85	14.53	12.34	43.83	29.63	28.40
Movement LOS	B	B	B	B	B	B	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	13.59			16.62			21.87			29.46		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	23.51											
Intersection LOS	C											
Intersection V/C	0.536											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	26.58	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.739	2.411	2.759	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	743	743	743	429
d_b, Bicycle Delay [s]	13.83	13.83	13.83	21.61
I_b,int, Bicycle LOS Score for Intersection	1.619	2.403	2.301	2.284
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	34.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.703

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	1	0	0	65	0	0	13
Total Hourly Volume [veh/h]	58	785	61	9	691	3	7	46	196	282	69	39
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	198	15	2	175	1	2	12	50	71	17	10
Total Analysis Volume [veh/h]	59	794	62	9	699	3	7	47	198	285	70	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	46	0	10	47	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	54	54	1	51	51	15	15	19	19
g / C, Green / Cycle	0.04	0.52	0.52	0.01	0.49	0.49	0.14	0.14	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.42	0.04	0.00	0.37	0.00	0.03	0.12	0.16	0.06
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	1810	1787
c, Capacity [veh/h]	78	979	832	22	920	782	270	231	321	317
d1, Uniform Delay [s]	49.74	21.23	12.85	51.55	22.14	14.02	39.73	43.99	42.21	37.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.12	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.63	7.28	0.17	11.79	5.88	0.01	0.36	8.84	9.12	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.81	0.07	0.41	0.76	0.00	0.20	0.86	0.89	0.34
d, Delay for Lane Group [s/veh]	63.37	28.51	13.03	63.34	28.02	14.03	40.09	52.83	51.33	38.51
Lane Group LOS	E	C	B	E	C	B	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.82	17.30	0.76	0.31	14.93	0.04	1.26	5.56	7.96	2.51
50th-Percentile Queue Length [ft/ln]	45.60	432.60	19.11	7.67	373.24	0.96	31.43	139.05	199.04	62.73
95th-Percentile Queue Length [veh/ln]	3.28	24.13	1.38	0.55	21.27	0.07	2.26	9.43	12.59	4.52
95th-Percentile Queue Length [ft/ln]	82.08	603.15	34.41	13.80	531.66	1.73	56.58	235.74	314.73	112.92

**Movement, Approach, & Intersection Results**

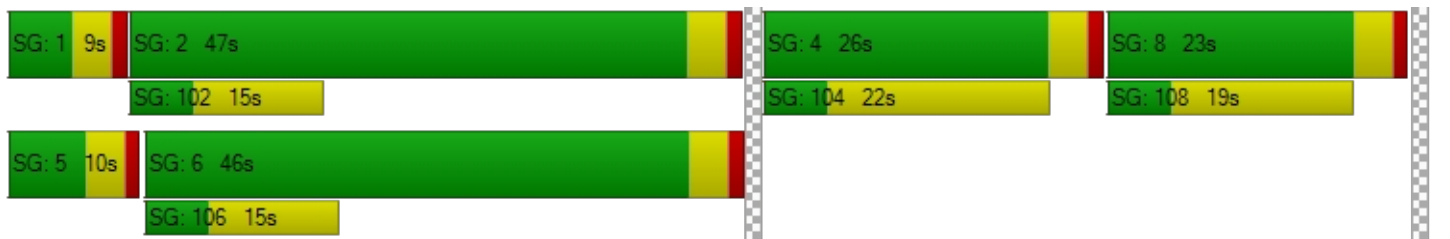
d_M, Delay for Movement [s/veh]	63.37	28.51	13.03	63.34	28.02	14.03	40.09	40.09	52.83	51.33	38.51	38.51
Movement LOS	E	C	B	E	C	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	29.71			28.41			50.10			47.78		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	34.70											
Intersection LOS	C											
Intersection V/C	0.703											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.89	43.89	43.89	43.89
I_p,int, Pedestrian LOS Score for Intersection	2.702	2.615	2.188	2.145
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	819	362	419
d_b, Bicycle Delay [s]	18.90	18.30	35.22	32.80
I_b,int, Bicycle LOS Score for Intersection	3.104	2.734	2.083	2.231
Bicycle LOS	C	B	B	B

**Sequence**





Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.385

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	21	771	203	97	1043	0	0	12	69	193	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	17	0	0	11
Total Hourly Volume [veh/h]	21	771	152	97	1043	0	0	12	52	193	5	34
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	199	39	25	269	0	0	3	13	50	1	9
Total Analysis Volume [veh/h]	22	796	157	100	1076	0	0	12	54	199	5	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	23	23	12	25	0	0	9	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	39	39	5	42	42	4	4	6	6	6
g / C, Green / Cycle	0.03	0.56	0.56	0.07	0.60	0.60	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.22	0.10	0.06	0.28	0.28	0.01	0.03	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	49	2006	896	133	1143	1143	101	86	164	164	146
d1, Uniform Delay [s]	33.68	8.94	7.72	31.90	7.78	7.78	31.68	32.57	30.78	30.78	29.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.46	0.59	0.43	8.14	1.39	1.39	0.52	7.28	3.81	3.79	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.40	0.18	0.75	0.47	0.47	0.12	0.63	0.62	0.62	0.24
d, Delay for Lane Group [s/veh]	40.14	9.52	8.15	40.05	9.18	9.18	32.20	39.85	34.59	34.57	30.53
Lane Group LOS	D	A	A	D	A	A	C	D	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.45	3.10	1.11	1.91	4.07	4.07	0.20	1.04	1.78	1.78	0.57
50th-Percentile Queue Length [ft/ln]	11.14	77.42	27.64	47.71	101.80	101.80	5.06	26.10	44.42	44.48	14.13
95th-Percentile Queue Length [veh/ln]	0.80	5.57	1.99	3.44	7.33	7.33	0.36	1.88	3.20	3.20	1.02
95th-Percentile Queue Length [ft/ln]	20.05	139.36	49.75	85.89	183.24	183.24	9.12	46.99	79.96	80.07	25.43



**Movement, Approach, & Intersection Results**

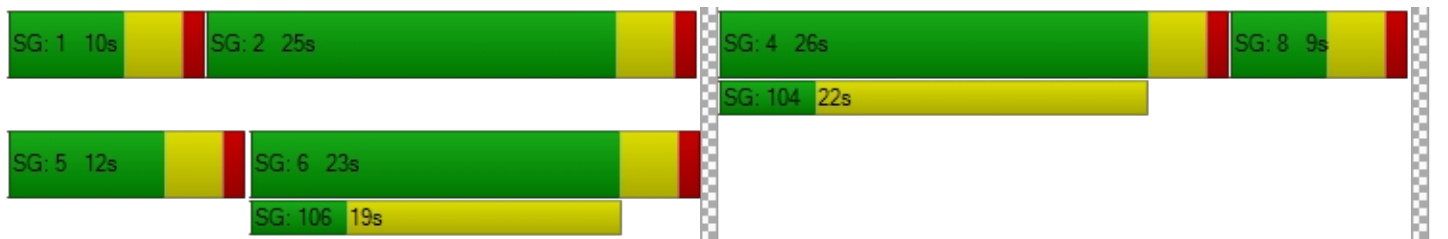
d_M, Delay for Movement [s/veh]	40.14	9.52	8.15	40.05	9.18	9.18	32.20	32.20	39.85	34.58	34.57	30.53
Movement LOS	D	A	A	D	A	A	C	C	D	C	C	C
d_A, Approach Delay [s/veh]	9.99			11.80			38.46			33.99		
Approach LOS	A			B			D			C		
d_I, Intersection Delay [s/veh]	13.96											
Intersection LOS	B											
Intersection V/C	0.385											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.58			0.00			26.58		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.682			0.000			2.275		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	543			600			143			629		
d_b, Bicycle Delay [s]	18.58			17.15			30.18			16.46		
I_b,int, Bicycle LOS Score for Intersection	2.406			2.530			1.697			1.972		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.479

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	202	284	0	0	1131	170	0	0	0	71	0	708
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	43	0	0	0	0	0	177
Total Hourly Volume [veh/h]	202	284	0	0	1131	127	0	0	0	71	0	531
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	1.0000	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	73	0	0	292	33	0	0	0	18	0	137
Total Analysis Volume [veh/h]	209	294	0	0	1170	131	0	0	0	73	0	549
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	9	48	36		4
g / C, Green / Cycle	0.14	0.81	0.60		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.32		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	259	2917	2158		110
d1, Uniform Delay [s]	24.97	1.23	7.23		27.65
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.88	0.07	0.98		6.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.81	0.10	0.54		0.66
d, Delay for Lane Group [s/veh]	30.85	1.30	8.22		34.35
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	3.12	0.08	3.60		1.18
50th-Percentile Queue Length [ft/ln]	78.10	2.04	89.94		29.47
95th-Percentile Queue Length [veh/ln]	5.62	0.15	6.48		2.12
95th-Percentile Queue Length [ft/ln]	140.58	3.67	161.89		53.05

**Movement, Approach, & Intersection Results**

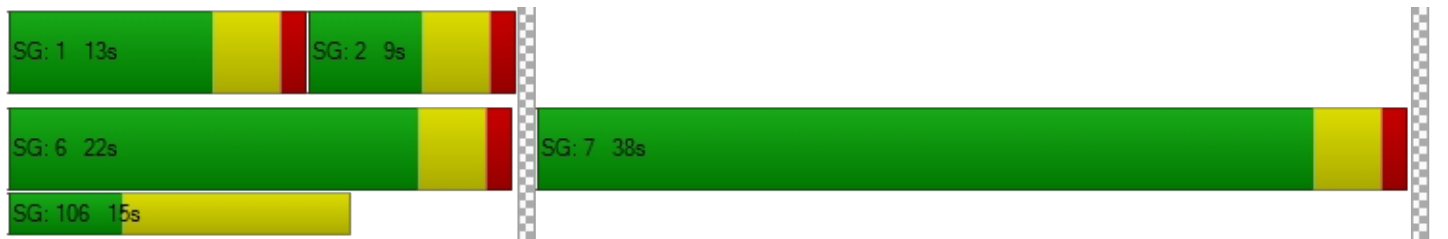
d_M, Delay for Movement [s/veh]	30.85	1.30	0.00	0.00	8.22	0.00	0.00	0.00	0.00	0.00	34.35	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	13.58			8.22			0.00			34.35			
Approach LOS	B			A			A			C			
d_I, Intersection Delay [s/veh]	10.85												
Intersection LOS	B												
Intersection V/C	0.479												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	21.68
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	1.945
Crosswalk LOS	F	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	167	0	1133
d_b, Bicycle Delay [s]	14.70	25.21	30.00	5.63
I_b,int, Bicycle LOS Score for Intersection	1.975	2.525	4.132	1.560
Bicycle LOS	A	B	D	A

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	20.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	456	63	512	574	0	120	0	752	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	0	0	0	188	0	0	0
Total Hourly Volume [veh/h]	0	456	47	512	574	0	120	0	564	0	0	0
Peak Hour Factor	1.0000	0.9280	0.9280	0.9280	0.9280	1.0000	0.9280	1.0000	0.9280	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	13	138	155	0	32	0	152	0	0	0
Total Analysis Volume [veh/h]	0	491	51	552	619	0	129	0	608	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	26	41	0	19	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	13	20	38	15	15	
g / C, Green / Cycle	0.22	0.33	0.62	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.31	0.17	0.07	0.21	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	803	606	2256	440	696	
d1, Uniform Delay [s]	21.06	19.14	5.14	18.54	21.87	
k, delay calibration	0.50	0.17	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.45	8.28	0.30	0.37	3.64	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.61	0.91	0.27	0.29	0.87	
d, Delay for Lane Group [s/veh]	24.52	27.42	5.44	18.91	25.52	
Lane Group LOS	C	C	A	B	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	3.25	7.93	1.36	1.40	4.12	
50th-Percentile Queue Length [ft/ln]	81.20	198.22	33.99	34.99	102.97	
95th-Percentile Queue Length [veh/ln]	5.85	12.55	2.45	2.52	7.41	
95th-Percentile Queue Length [ft/ln]	146.17	313.67	61.17	62.99	185.35	

**Movement, Approach, & Intersection Results**

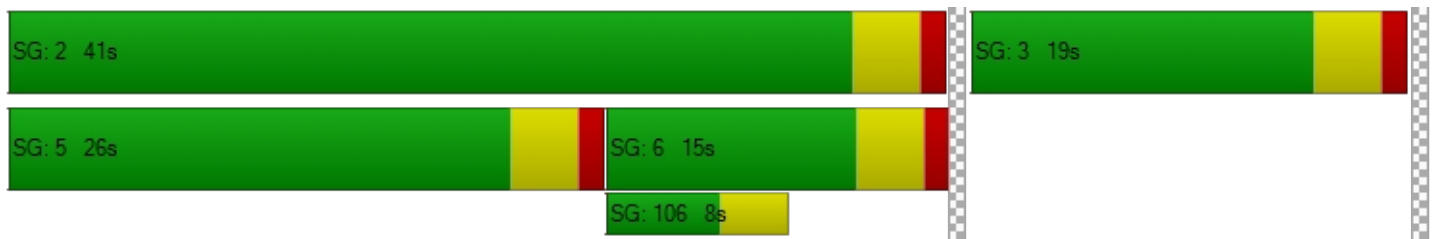
d_M, Delay for Movement [s/veh]	0.00	24.52	0.00	27.42	5.44	0.00	18.91	0.00	25.52	0.00	0.00	0.00
Movement LOS		C		C	A		B		C			
d_A, Approach Delay [s/veh]	24.52			15.80			24.36			0.00		
Approach LOS	C			B			C			A		
d_I, Intersection Delay [s/veh]	20.21											
Intersection LOS	C											
Intersection V/C	0.653											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.68		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.942		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	367			1233			500			0		
d_b, Bicycle Delay [s]	20.01			4.41			16.88			30.00		
I_b,int, Bicycle LOS Score for Intersection	1.965			2.526			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



## Bloomington Business Park Specific Plan

Vistro File: Z:\...\Bloomington Alt.vistro

Scenario 14 Existing PM

Report File: Z:\...\Existing PM.pdf

1/11/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	475	1171	571	592	946	882	976	525	479	605	7222

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	166	1262	183	675	1117	134	308	523	80	181	307	707	5643

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1569	13	48	1343	9	51	3033

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	163	1298	43	104	1127	97	155	135	124	99	118	98	3561

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	1	9	6	25	7	9	11	360	6	9	305	17	765

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	99	269	66	17	222	10	8	225	162	39	195	29	1341

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	352	154	59	326	40	46	977

Version 2020 (SP 0-5)

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	11	8	11	13	16	21	16	269	13	13	249	22	662

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	13	8	10	210	93	9	343

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	13	31	10	38	50	15	29	180	20	8	92	52	538

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	330	1348	1164	637	346	5	566	4396

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1162	352	397	1083	582	2	237	3815

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	1	1316	2	39	1056	233	177	4	16	1	2	118	2965

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	82	893	26	144	801	108	273	307	124	25	161	169	3113

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	110	927	32	76	759	47	75	135	93	26	112	56	2448

Version 2020 (SP 0-5)

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	58	898	37	101	778	47	39	89	46	45	49	76	2263

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	51	941	9	39	767	27	63	23	33	18	21	15	2007

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	105	845	14	52	766	14	45	21	284	29	10	17	2202

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	822	124	153	826	9	13	7	5	219	9	181	2377

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	16	338	396	534	468	23	29	50	15	229	84	525	2707

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	14	7	181	11	293	339	499	9	8	556	266	2196

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	58	785	82	9	691	4	7	46	261	282	69	52	2346

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	21	771	203	97	1043	0	0	12	69	193	5	45	2459

Version 2020 (SP 0-5)

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	202	284	1131	170	71	708	2566

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	456	63	512	574	120	752	2477

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## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 3 OY AM

Report File: C:\...\OY AM.pdf

7/12/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.661	36.3	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.551	33.1	C
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.346	4.5	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.397	17.0	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	WB Thru	0.359	9.6	A
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.496	12.7	B
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.603	27.4	D
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.018	12.3	B
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.082	13.3	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	WB Thru	0.474	10.6	B
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	1.102	78.2	E
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.900	53.5	D
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.590	9.4	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.843	56.0	E
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.553	14.0	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	SB Right	2.632	139.8	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.441	8.8	A
			HCM 6th				

Version 2021 (SP 0-2)





18	Cedar Ave/7th St	Signalized	HCM 6th Edition	NB Left	0.483	11.0	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	SB Left	0.757	33.9	C
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	WB Left	0.925	72.9	E
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.831	34.3	C
22	Market St/24th St	Signalized	HCM 6th Edition	SB Left	0.751	25.7	C
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.505	12.3	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.451	10.7	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.660	23.6	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	36.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	615	801	308	563	657	1094	1048	0	519	375	0	691
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	14	14	0	46	0	0	0	78	44	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	82	0	0	279	0	0	152	0	0	176
Total Hourly Volume [veh/h]	658	831	246	574	716	837	1069	0	455	427	0	529
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	1.0000	0.9530	0.9530	1.0000	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	173	218	65	151	188	220	280	0	119	112	0	139
Total Analysis Volume [veh/h]	690	872	258	602	751	878	1122	0	477	448	0	555
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	38	21	36	38	38
g / C, Green / Cycle	0.22	0.35	0.19	0.33	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.20	0.17	0.17	0.15	0.32	0.13
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	760	1811	682	1696	1219	1219
d1, Uniform Delay [s]	42.00	27.92	43.06	29.04	34.43	26.86
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.56	0.92	3.99	0.84	3.38	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.91	0.48	0.88	0.44	0.92	0.37
d, Delay for Lane Group [s/veh]	46.56	28.84	47.05	29.88	37.81	27.05
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	9.32	5.93	8.19	5.24	13.31	4.00
50th-Percentile Queue Length [ft/ln]	233.09	148.27	204.70	130.90	332.76	99.99
95th-Percentile Queue Length [veh/ln]	14.33	9.92	12.88	8.99	19.29	7.20
95th-Percentile Queue Length [ft/ln]	358.28	248.12	322.02	224.72	482.34	179.98

**Movement, Approach, & Intersection Results**

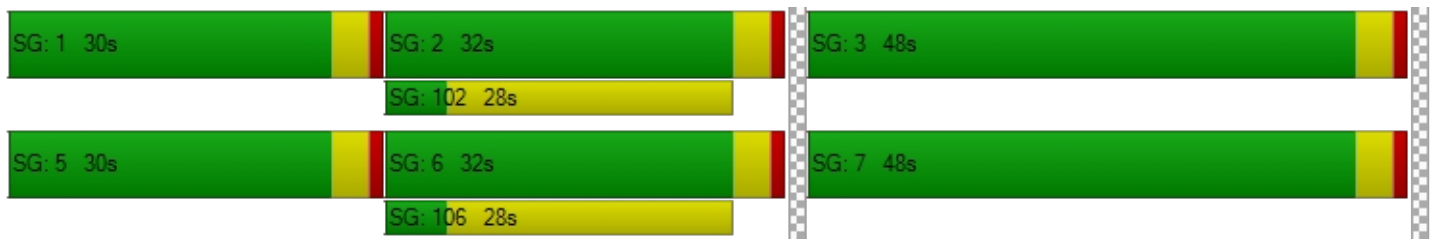
d_M, Delay for Movement [s/veh]	46.56	28.84	0.00	47.05	29.88	0.00	37.81	0.00	0.00	27.05	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	36.67			37.52			37.81			27.05		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	36.25											
Intersection LOS	D											
Intersection V/C	0.661											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			46.34			46.34		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.102			2.834		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	509			509			800			800		
d_b, Bicycle Delay [s]	30.53			30.53			19.77			19.77		
I_b,int, Bicycle LOS Score for Intersection	2.419			2.304			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	146	1235	88	550	875	156	190	194	58	49	243	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	19	6	97	60	11	3	19	2	3	12	37
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	24	0	0	43	0	0	15	0	0	99
Total Hourly Volume [veh/h]	149	1279	72	658	953	127	197	217	46	53	260	295
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	342	19	176	255	34	53	58	12	14	70	79
Total Analysis Volume [veh/h]	159	1368	77	704	1019	136	211	232	49	57	278	316
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	19	40	0	35	56	0	15	45	0	10	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	62	62	29	83	83	10	18	18	4	13	46
g / C, Green / Cycle	0.06	0.48	0.48	0.22	0.64	0.64	0.08	0.14	0.14	0.03	0.10	0.35
(v / s)_i Volume / Saturation Flow Rate	0.05	0.21	0.21	0.20	0.21	0.21	0.06	0.06	0.03	0.02	0.08	0.11
s, saturation flow rate [veh/h]	3514	5176	1834	3514	3618	1788	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	217	2485	881	775	2311	1142	265	513	229	121	365	1007
d1, Uniform Delay [s]	59.94	22.14	22.14	49.38	10.78	10.79	59.12	51.15	49.37	61.62	56.94	30.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.71	0.54	1.53	4.47	0.39	0.79	5.40	0.62	0.46	2.85	3.32	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.73	0.43	0.43	0.91	0.33	0.34	0.80	0.45	0.21	0.47	0.76	0.31
d, Delay for Lane Group [s/veh]	64.65	22.68	23.67	53.85	11.17	11.58	64.52	51.77	49.83	64.48	60.26	30.85
Lane Group LOS	E	C	C	D	B	B	E	D	D	E	E	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.65	6.83	7.51	11.40	4.87	4.97	3.55	3.44	1.42	0.95	4.49	3.51
50th-Percentile Queue Length [ft/ln]	66.21	170.71	187.77	285.07	121.85	124.31	88.68	86.09	35.38	23.72	112.19	87.71
95th-Percentile Queue Length [veh/ln]	4.77	11.11	12.01	16.94	8.49	8.63	6.38	6.20	2.55	1.71	7.96	6.31
95th-Percentile Queue Length [ft/ln]	119.18	277.85	300.13	423.52	212.36	215.73	159.62	154.96	63.68	42.69	199.05	157.87

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	64.65	22.90	23.67	53.85	11.27	11.58	64.52	51.77	49.83	64.48	60.26	30.85
Movement LOS	E	C	C	D	B	B	E	D	D	E	E	C
d_A, Approach Delay [s/veh]	27.07			27.42			57.04			46.36		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	33.14											
Intersection LOS	C											
Intersection V/C	0.551											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.402	3.492	2.971	3.332
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	800	631	554
d_b, Bicycle Delay [s]	33.99	23.40	30.47	33.99
I_b,int, Bicycle LOS Score for Intersection	2.231	2.606	1.978	2.178
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.346

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1408	23	56	888	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	0	0	65	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1461	17	57	971	10	48
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	385	4	15	256	3	13
Total Analysis Volume [veh/h]	1540	18	60	1023	11	51
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	32	38	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	51	4	58	4	4
g / C, Green / Cycle	0.73	0.73	0.05	0.83	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.30	0.01	0.02	0.20	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3759	1173	179	4317	94	84
d1, Uniform Delay [s]	3.74	2.66	32.13	1.20	31.72	32.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.02	1.09	0.13	0.55	7.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.41	0.02	0.34	0.24	0.12	0.61
d, Delay for Lane Group [s/veh]	4.07	2.68	33.23	1.33	32.27	39.57
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.22	0.04	0.50	0.19	0.19	0.98
50th-Percentile Queue Length [ft/ln]	30.39	0.88	12.59	4.79	4.67	24.59
95th-Percentile Queue Length [veh/ln]	2.19	0.06	0.91	0.34	0.34	1.77
95th-Percentile Queue Length [ft/ln]	54.71	1.58	22.65	8.62	8.41	44.26

**Movement, Approach, & Intersection Results**

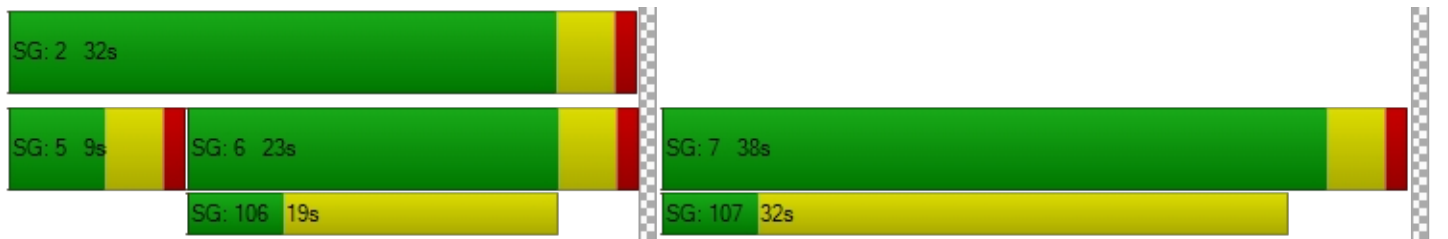
d_M, Delay for Movement [s/veh]	4.07	2.68	33.23	1.33	32.27	39.57
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	4.06		3.10		38.28	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.46					
Intersection LOS	A					
Intersection V/C	0.346					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.042	2.182
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	542	799	971
d_b, Bicycle Delay [s]	18.61	12.63	9.28
I_b,int, Bicycle LOS Score for Intersection	2.420	2.155	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.397

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1235	35	56	761	65	99	59	41	48	75	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	3	43	19	6	10	0	0	18	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	21	0	0	0	0	0	23
Total Hourly Volume [veh/h]	137	1278	36	60	819	64	107	70	42	49	95	70
Peak Hour Factor	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	342	10	16	219	17	29	19	11	13	25	19
Total Analysis Volume [veh/h]	147	1370	39	64	878	69	115	75	45	53	102	75
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	56	56	4	55	55	7	10	10	4	6	6
g / C, Green / Cycle	0.06	0.63	0.63	0.04	0.61	0.61	0.08	0.11	0.11	0.04	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.02	0.02	0.18	0.18	0.06	0.02	0.03	0.03	0.03	0.05
s, saturation flow rate [veh/h]	3459	5094	1589	3514	3560	1801	1810	3618	1589	1781	3618	1615
c, Capacity [veh/h]	196	3176	991	160	2181	1104	147	403	177	75	260	116
d1, Uniform Delay [s]	41.92	8.74	6.55	41.83	8.21	8.22	40.62	36.37	36.65	42.64	39.97	40.73
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.73	0.43	0.07	1.60	0.33	0.66	8.60	0.22	0.75	11.50	0.96	5.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.43	0.04	0.40	0.29	0.29	0.78	0.19	0.25	0.71	0.39	0.65
d, Delay for Lane Group [s/veh]	47.65	9.17	6.62	43.44	8.55	8.88	49.22	36.59	37.40	54.14	40.93	46.63
Lane Group LOS	D	A	A	D	A	A	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.75	4.18	0.28	0.72	2.68	2.83	2.82	0.75	0.93	1.39	1.10	1.79
50th-Percentile Queue Length [ft/ln]	43.69	104.58	7.00	18.02	67.08	70.66	70.57	18.85	23.35	34.81	27.57	44.78
95th-Percentile Queue Length [veh/ln]	3.15	7.53	0.50	1.30	4.83	5.09	5.08	1.36	1.68	2.51	1.99	3.22
95th-Percentile Queue Length [ft/ln]	78.64	188.25	12.61	32.43	120.74	127.19	127.02	33.94	42.02	62.65	49.63	80.60

**Movement, Approach, & Intersection Results**

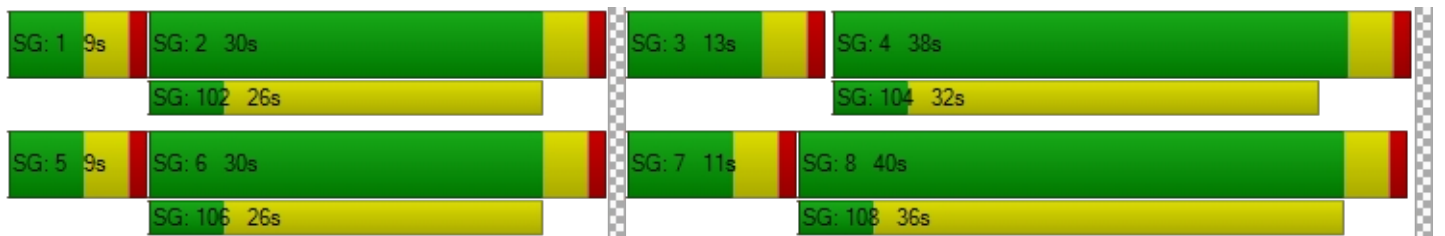
d_M, Delay for Movement [s/veh]	47.65	9.17	6.62	43.44	8.64	8.88	49.22	36.59	37.40	54.14	40.93	46.63
Movement LOS	D	A	A	D	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	12.74			10.86			42.92			45.83		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.96											
Intersection LOS	B											
Intersection V/C	0.397											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.125	3.076	2.548	2.557
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	799	755
d_b, Bicycle Delay [s]	22.80	22.80	16.24	17.46
I_b,int, Bicycle LOS Score for Intersection	2.415	2.127	1.753	1.768
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	5	3	3	11	0	10	9	177	3	8	203	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	57	0	0	33	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	3	3	11	0	10	9	238	3	8	240	10
Peak Hour Factor	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	3	0	3	3	70	1	2	70	3
Total Analysis Volume [veh/h]	6	4	4	13	0	12	11	279	4	9	281	12
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	699	716	835	840
Degree of Utilization, x	0.02	0.03	0.35	0.36

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.06	0.11	1.59	1.64
95th-Percentile Queue Length [ft]	1.53	2.71	39.79	41.09
Approach Delay [s/veh]	8.25	8.21	9.63	9.67
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.56			
Intersection LOS	A			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.496

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	16	0	0	51	0	0	35	22	0	26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	184	31	6	126	5	5	118	97	62	157	19
Peak Hour Factor	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	51	9	2	35	1	1	33	27	17	44	5
Total Analysis Volume [veh/h]	75	206	35	7	141	6	6	132	109	69	176	21
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	637	602	651	627
Degree of Utilization, x	0.50	0.26	0.38	0.42

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	2.76	1.01	1.77	2.11
95th-Percentile Queue Length [ft]	69.11	25.32	44.33	52.85
Approach Delay [s/veh]	14.09	11.02	11.88	12.92
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	12.74			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	27.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↶		↷		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	208	39	22	177	37	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	2.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	59	0	73	198	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	99	22	254	236	38
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	27	6	70	65	10
Total Analysis Volume [veh/h]	258	109	24	279	259	42
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.60	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	8.05	0.00	27.44	23.97
Movement LOS	A	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.06	4.69	4.69
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.53	1.53	117.34	117.34
d_A, Approach Delay [s/veh]	0.00		0.64		26.96	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.56					
Intersection LOS	D					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	8	10	6	12	26	5	110	6	8	172	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	10	0	6	2	34	0	0	20	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	8	10	16	12	33	7	146	6	8	195	18
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	3	4	3	9	2	38	2	2	51	5
Total Analysis Volume [veh/h]	9	8	10	17	13	34	7	152	6	8	204	19
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.02	0.01	0.03	0.02	0.04	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.34	12.07	9.29	12.25	12.32	9.91	7.67	0.00	0.00	7.52	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.14	0.32	0.32	0.32	0.02	0.02	0.02	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	3.44	3.44	3.44	8.00	8.00	8.00	0.39	0.39	0.39	0.42	0.42	0.42
d_A, Approach Delay [s/veh]	11.13			11.02			0.33			0.26		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.30											
Intersection LOS	B											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.082

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	26	4	1	61	76	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	59	198	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	4	1	121	276	6
Peak Hour Factor	0.6840	0.6840	0.6840	0.6840	0.6840	0.6840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	1	0	44	101	2
Total Analysis Volume [veh/h]	39	6	1	177	404	9
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.32	11.30	8.11	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.30	0.30	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.51	7.51	0.06	0.06	0.00	0.00
d_A, Approach Delay [s/veh]	13.05		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.94					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.474

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	59	0	0	198	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	39	5	14	18	13	1	132	6	3	264	17
Peak Hour Factor	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	12	2	4	6	4	0	42	2	1	84	5
Total Analysis Volume [veh/h]	6	50	6	18	23	17	1	169	8	4	337	22
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	686	695	699	809	720	839
Degree of Utilization, x	0.09	0.08	0.24	0.01	0.47	0.03

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.30	0.27	0.95	0.03	2.56	0.08
95th-Percentile Queue Length [ft]	7.42	6.80	23.78	0.75	64.01	2.02
Approach Delay [s/veh]	8.77	8.65	9.40		11.81	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	10.60					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	78.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.102

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	57	28	0	0	77	0	0	0	0	148	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	258	0	0	0	0	0	124
Total Hourly Volume [veh/h]	436	1209	0	0	1327	774	0	0	0	494	5	372
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	113	313	0	0	343	200	0	0	0	128	1	96
Total Analysis Volume [veh/h]	451	1250	0	0	1372	800	0	0	0	511	5	385
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	30	85	0	0	55	0	0	0	0	0	40	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	125	125	125	125		125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	26	81	51	51		36	36
g / C, Green / Cycle	0.21	0.65	0.41	0.41		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.28	0.36	0.28	0.52		0.30	0.25
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1715	1530
c, Capacity [veh/h]	337	2221	1999	624		494	441
d1, Uniform Delay [s]	49.45	12.18	30.43	36.99		44.47	42.31
k, delay calibration	0.50	0.50	0.50	0.50		0.49	0.36
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	170.68	1.04	1.94	139.13		52.31	16.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.34	0.56	0.69	1.28		1.04	0.87
d, Delay for Lane Group [s/veh]	220.13	13.22	32.37	176.12		96.78	58.38
Lane Group LOS	F	B	C	F		F	E
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	26.47	9.50	11.58	42.71		22.32	13.20
50th-Percentile Queue Length [ft/ln]	661.63	237.59	289.51	1067.82		557.99	329.93
95th-Percentile Queue Length [veh/ln]	40.13	14.56	17.16	62.70		30.92	19.15
95th-Percentile Queue Length [ft/ln]	1003.26	363.98	429.03	1567.46		773.08	478.87

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	220.13	13.22	0.00	0.00	32.37	176.12	0.00	0.00	0.00	96.78	96.78	58.38
Movement LOS	F	B			C	F				F	F	E
d_A, Approach Delay [s/veh]	68.08				85.32		0.00		80.37			
Approach LOS	E				F		A		F			
d_I, Intersection Delay [s/veh]	78.24											
Intersection LOS	E											
Intersection V/C	1.102											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	53.80	53.80
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.470	2.467
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1296	816	0	576
d_b, Bicycle Delay [s]	7.73	21.89	62.48	31.66
I_b,int, Bicycle LOS Score for Intersection	2.963	2.896	4.132	3.251
Bicycle LOS	C	C	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	53.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1001	385	485	1080	0	530	4	441	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	85	52	0	225	0	0	0	170	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	111	0	0	0	0	0	155	0	0	0
Total Hourly Volume [veh/h]	0	1106	334	495	1327	0	541	4	465	0	0	0
Peak Hour Factor	1.0000	0.9630	0.9630	0.9630	0.9630	1.0000	0.9630	0.9630	0.9630	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	287	87	129	344	0	140	1	121	0	0	0
Total Analysis Volume [veh/h]	0	1148	347	514	1378	0	562	4	483	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	36	64	0	0	36	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	24	24	32	60	32	32	
g / C, Green / Cycle	0.24	0.24	0.32	0.60	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.23	0.23	0.32	0.40	0.31	0.35	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1548	
c, Capacity [veh/h]	1178	368	518	2057	518	495	
d1, Uniform Delay [s]	37.69	37.33	33.89	13.37	33.75	34.01	
k, delay calibration	0.50	0.50	0.45	0.50	0.44	0.50	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	20.81	34.75	35.63	1.76	33.39	66.91	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.97	0.94	0.99	0.67	0.98	1.09	
d, Delay for Lane Group [s/veh]	58.50	72.08	69.52	15.13	67.14	100.92	
Lane Group LOS	E	E	E	B	E	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	11.38	11.73	17.18	9.98	16.71	20.86	
50th-Percentile Queue Length [ft/ln]	284.39	293.16	429.51	249.51	417.63	521.43	
95th-Percentile Queue Length [veh/ln]	16.91	17.34	23.98	15.16	23.41	29.93	
95th-Percentile Queue Length [ft/ln]	422.68	433.56	599.45	379.04	585.20	748.32	

**Movement, Approach, & Intersection Results**

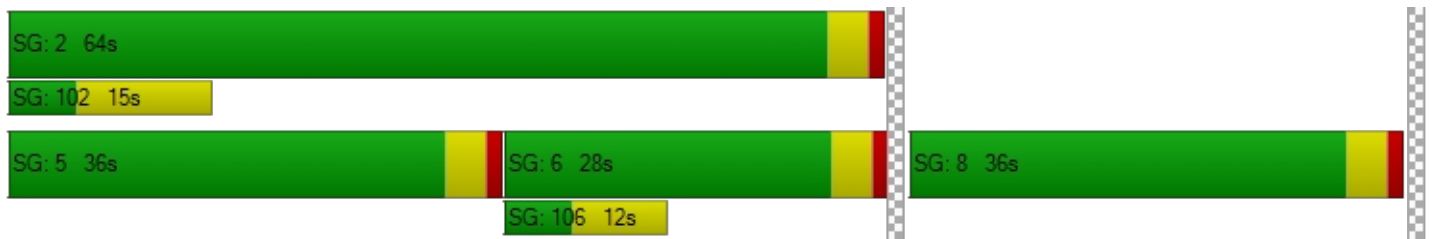
d_M, Delay for Movement [s/veh]	0.00	58.50	72.08	69.52	15.13	0.00	69.52	100.92	100.92	0.00	0.00	0.00
Movement LOS		E	E	E	B		E	F	F			
d_A, Approach Delay [s/veh]		61.65		29.90			84.51			0.00		
Approach LOS		E		C			F			A		
d_I, Intersection Delay [s/veh]	53.52											
Intersection LOS	D											
Intersection V/C	0.900											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		0.00		41.41		41.41
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.559		2.197
Crosswalk LOS	F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	480		1200		640		0
d_b, Bicycle Delay [s]	28.88		8.00		23.12		50.00
I_b,int, Bicycle LOS Score for Intersection	2.443		3.121		3.546		4.132
Bicycle LOS	B		C		D		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.590

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1205	4	80	1236	190	92	0	32	0	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	137	0	0	395	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	9	1366	3	82	1656	194	94	0	33	0	0	76
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	363	1	22	439	51	25	0	9	0	0	20
Total Analysis Volume [veh/h]	10	1450	3	87	1758	206	100	0	35	0	0	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	13	19	0	0	51	0	0	51	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	64	56	56	64	59	59	8	8	8
g / C, Green / Cycle	0.80	0.69	0.69	0.80	0.74	0.74	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.03	0.40	0.40	0.18	0.51	0.14	0.08	0.02	0.05
s, saturation flow rate [veh/h]	337	1800	1799	497	3427	1506	1317	1506	1506
c, Capacity [veh/h]	317	1248	1247	444	2516	1106	129	154	198
d1, Uniform Delay [s]	5.37	6.31	6.31	4.29	5.81	3.28	35.09	33.06	34.13
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	1.99	1.99	0.98	1.64	0.37	9.60	0.75	1.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.03	0.58	0.58	0.20	0.70	0.19	0.78	0.23	0.41
d, Delay for Lane Group [s/veh]	5.41	8.30	8.30	5.27	7.44	3.65	44.69	33.81	35.47
Lane Group LOS	A	A	A	A	A	A	D	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.02	5.46	5.46	0.27	5.99	0.83	2.20	0.64	1.54
50th-Percentile Queue Length [ft/ln]	0.49	136.49	136.44	6.71	149.84	20.78	55.01	16.10	38.43
95th-Percentile Queue Length [veh/ln]	0.04	9.29	9.29	0.48	10.01	1.50	3.96	1.16	2.77
95th-Percentile Queue Length [ft/ln]	0.88	232.28	232.23	12.08	250.22	37.40	99.01	28.99	69.17

**Movement, Approach, & Intersection Results**

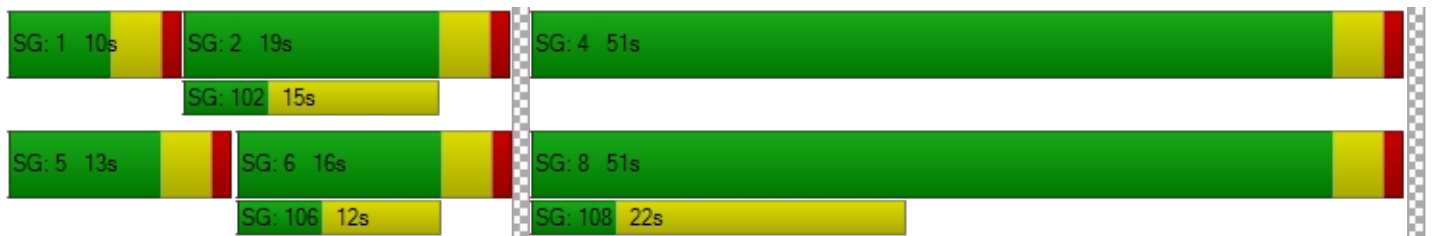
d_M, Delay for Movement [s/veh]	5.41	8.30	8.30	5.27	7.44	3.65	44.69	33.81	33.81	35.47	35.47	35.47
Movement LOS	A	A	A	A	A	A	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	8.28			6.97			41.87			35.47		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	9.37											
Intersection LOS	A											
Intersection V/C	0.590											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.53	0.00	31.53	31.53
I_p,int, Pedestrian LOS Score for Intersection	2.932	0.000	2.061	1.931
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	375	1174	1174
d_b, Bicycle Delay [s]	28.92	26.43	6.82	6.82
I_b,int, Bicycle LOS Score for Intersection	2.767	3.252	1.782	1.735
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	56.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.843

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	78	3	20	243	132	57	7	31	1	8	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	948	15	224	1224	261	229	84	86	11	127	198
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	253	4	60	327	70	61	22	23	3	34	53
Total Analysis Volume [veh/h]	124	1012	16	239	1306	279	244	90	92	12	136	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	42	0	24	53	0	24	42	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	45	45	20	56	56	20	37	37	2	19	19
g / C, Green / Cycle	0.08	0.38	0.38	0.16	0.47	0.47	0.17	0.31	0.31	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.29	0.29	0.15	0.45	0.47	0.15	0.03	0.06	0.01	0.08	0.14
s, saturation flow rate [veh/h]	1593	1772	1762	1593	1772	1667	1593	3373	1506	1593	1772	1506
c, Capacity [veh/h]	121	667	663	262	825	776	266	1049	468	23	281	239
d1, Uniform Delay [s]	55.49	32.92	32.92	49.29	31.23	32.09	49.20	29.28	30.36	58.72	46.02	49.41
k, delay calibration	0.11	0.50	0.50	0.16	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	45.65	8.48	8.53	15.84	24.50	35.79	17.13	0.03	0.20	16.26	1.29	11.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.03	0.77	0.77	0.91	0.97	1.01	0.92	0.09	0.20	0.51	0.48	0.88
d, Delay for Lane Group [s/veh]	101.14	41.39	41.45	65.12	55.72	67.89	66.33	29.32	30.56	74.98	47.30	61.26
Lane Group LOS	F	D	D	E	E	F	E	C	C	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.17	14.57	14.51	8.18	27.29	29.37	8.44	0.93	1.99	0.47	3.81	6.96
50th-Percentile Queue Length [ft/ln]	129.32	364.36	362.68	204.41	682.30	734.37	210.98	23.34	49.85	11.71	95.21	174.09
95th-Percentile Queue Length [veh/ln]	8.99	20.84	20.75	12.87	35.86	38.68	13.20	1.68	3.59	0.84	6.85	11.29
95th-Percentile Queue Length [ft/ln]	224.64	520.89	518.84	321.65	896.49	967.12	330.08	42.01	89.74	21.07	171.37	282.28

**Movement, Approach, & Intersection Results**

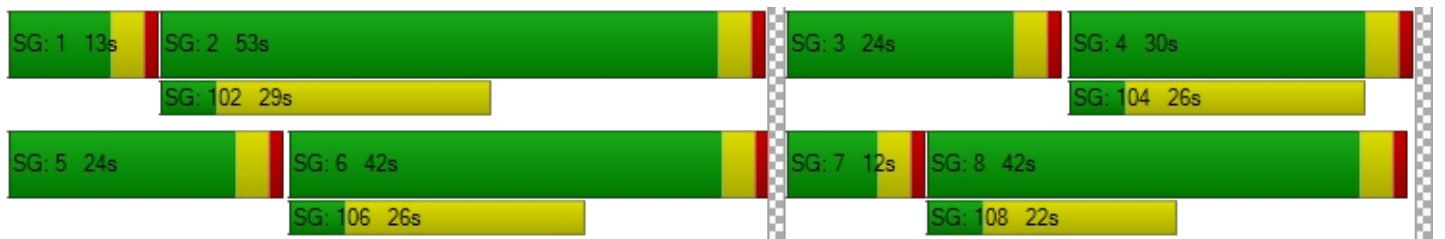
d_M, Delay for Movement [s/veh]	101.14	41.42	41.45	65.12	60.45	67.89	66.33	29.32	30.56	74.98	47.30	61.26
Movement LOS	F	D	D	E	E	E	E	C	C	E	D	E
d_A, Approach Delay [s/veh]	47.85			62.20			50.79			56.43		
Approach LOS	D			E			D			E		
d_I, Intersection Delay [s/veh]	55.96											
Intersection LOS	E											
Intersection V/C	0.843											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.35	51.35	51.35	51.35
I_p,int, Pedestrian LOS Score for Intersection	2.815	3.003	2.744	2.583
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	816	633	433
d_b, Bicycle Delay [s]	28.03	21.02	28.03	36.83
I_b,int, Bicycle LOS Score for Intersection	2.510	3.064	1.911	1.856
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	69	780	18	62	871	53	63	43	47	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	100	0	0	280	0	0	1	43	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	896	18	63	1168	54	64	45	91	10	69	39
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	234	5	16	304	14	17	12	24	3	18	10
Total Analysis Volume [veh/h]	100	934	19	66	1218	56	67	47	95	10	72	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	16	0	18	22	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	35	35	3	34	34	9	9
g / C, Green / Cycle	0.08	0.59	0.59	0.06	0.57	0.57	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.04	0.36	0.36	0.13	0.07
s, saturation flow rate [veh/h]	1593	1772	1759	1593	1772	1744	1634	1735
c, Capacity [veh/h]	126	1040	1033	90	1001	986	334	336
d1, Uniform Delay [s]	27.20	7.01	7.01	27.89	8.90	8.91	24.38	23.06
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.85	1.46	1.47	10.72	3.14	3.21	1.92	0.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.46	0.46	0.73	0.64	0.64	0.63	0.37
d, Delay for Lane Group [s/veh]	38.06	8.47	8.48	38.60	12.04	12.12	26.30	23.72
Lane Group LOS	D	A	A	D	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.71	3.03	3.01	1.15	5.24	5.20	2.84	1.49
50th-Percentile Queue Length [ft/ln]	42.78	75.74	75.29	28.86	131.09	129.90	71.04	37.18
95th-Percentile Queue Length [veh/ln]	3.08	5.45	5.42	2.08	9.00	8.93	5.12	2.68
95th-Percentile Queue Length [ft/ln]	77.00	136.34	135.53	51.94	224.97	223.36	127.88	66.92

**Movement, Approach, & Intersection Results**

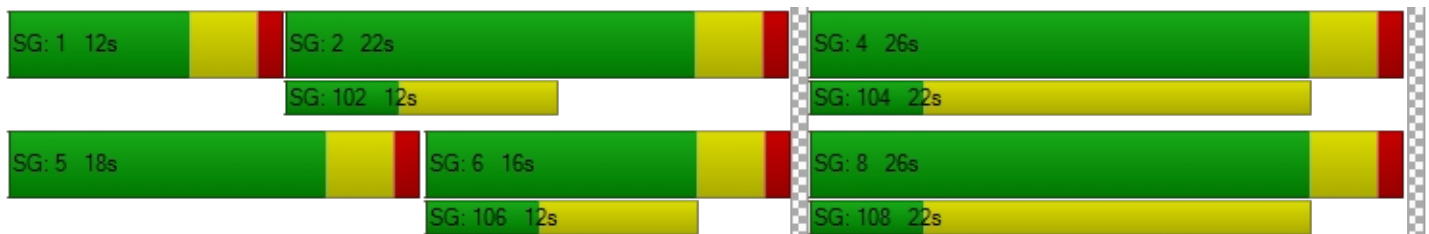
d_M, Delay for Movement [s/veh]	38.06	8.47	8.48	38.60	12.08	12.12	26.30	26.30	26.30	23.72	23.72	23.72
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.28			13.38			26.30			23.72		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.03											
Intersection LOS	B											
Intersection V/C	0.553											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.758			2.840			1.909			1.861		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			600			733			733		
d_b, Bicycle Delay [s]	19.22			14.72			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.428			2.665			1.904			1.763		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	139.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.632

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	75	95	0	0	218	106	32	5	22	0	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	0	0	0	11	0	0	0
Total Hourly Volume [veh/h]	90	855	25	94	1045	129	85	40	33	31	55	50
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	233	7	26	284	35	23	11	9	8	15	14
Total Analysis Volume [veh/h]	98	930	27	102	1137	140	92	44	36	34	60	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	15	15	5	16	16	28	28	28	28
g / C, Green / Cycle	0.07	0.26	0.26	0.08	0.26	0.26	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.06	0.37	0.37	2.20	0.02	0.41	0.04
s, saturation flow rate [veh/h]	1619	1772	1754	1593	1772	1705	62	1530	227	1506
c, Capacity [veh/h]	121	454	450	125	461	444	129	711	187	700
d1, Uniform Delay [s]	27.33	22.31	22.31	27.20	22.19	22.19	23.91	8.80	14.01	8.91
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.32	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.96	58.66	58.89	11.81	195.66	200.15	93.71	0.03	6.10	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.81	1.06	1.06	0.81	1.41	1.42	1.05	0.05	0.50	0.08
d, Delay for Lane Group [s/veh]	39.30	80.97	81.20	39.02	217.85	222.34	117.62	8.83	20.11	8.96
Lane Group LOS	D	F	F	D	F	F	F	A	C	A
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.71	13.22	13.11	1.77	30.96	30.34	5.15	0.23	0.96	0.35
50th-Percentile Queue Length [ft/ln]	42.75	330.43	327.87	44.27	773.99	758.53	128.68	5.69	23.88	8.65
95th-Percentile Queue Length [veh/ln]	3.08	19.81	19.68	3.19	47.54	46.79	9.13	0.41	1.72	0.62
95th-Percentile Queue Length [ft/ln]	76.95	495.28	492.04	79.68	1188.62	1169.84	228.36	10.25	42.98	15.58



**Movement, Approach, & Intersection Results**

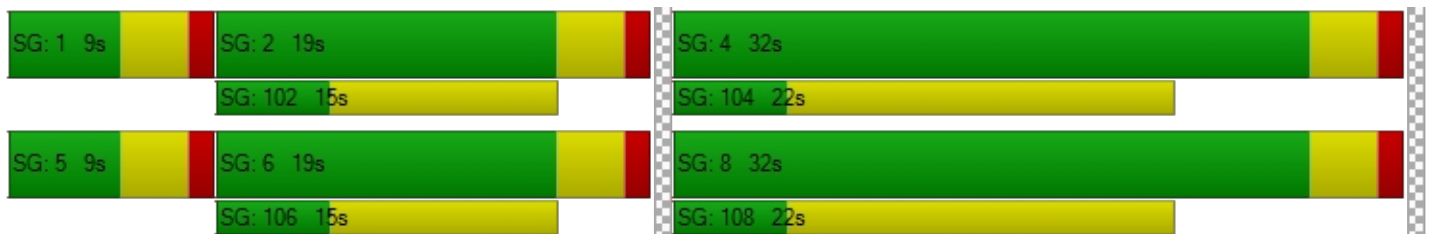
d_M, Delay for Movement [s/veh]	39.30	81.08	81.20	39.02	219.78	222.34	117.62	117.62	8.83	20.11	20.11	8.96
Movement LOS	D	F	F	D	F	F	F	F	A	C	C	A
d_A, Approach Delay [s/veh]	77.20			206.67			94.85			16.04		
Approach LOS	E			F			F			B		
d_I, Intersection Delay [s/veh]	139.84											
Intersection LOS	F											
Intersection V/C	2.632											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.785	2.890	2.093	2.028
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	933	933
d_b, Bicycle Delay [s]	16.88	16.88	8.53	8.53
I_b,int, Bicycle LOS Score for Intersection	2.437	2.697	1.862	1.804
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	23	755	1	19	805	19	79	29	25	21	16	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	168	0	0	239	1	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	5	0	0	7	0	0	5
Total Hourly Volume [veh/h]	23	938	1	19	1060	15	83	30	19	21	16	13
Peak Hour Factor	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	262	0	5	296	4	23	8	5	6	4	4
Total Analysis Volume [veh/h]	26	1047	1	21	1183	17	93	33	21	23	18	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	40	40	2	39	39	7	7
g / C, Green / Cycle	0.03	0.66	0.66	0.03	0.66	0.66	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.29	0.29	0.01	0.33	0.33	0.09	0.03
s, saturation flow rate [veh/h]	1619	1800	1799	1619	1800	1791	1621	1712
c, Capacity [veh/h]	49	1188	1188	42	1180	1174	283	281
d1, Uniform Delay [s]	28.70	4.90	4.90	28.89	5.36	5.36	25.75	24.35
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.48	1.19	1.19	9.12	1.58	1.59	1.47	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.44	0.44	0.50	0.51	0.51	0.52	0.20
d, Delay for Lane Group [s/veh]	37.18	6.09	6.09	38.01	6.94	6.95	27.22	24.69
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	2.43	2.43	0.39	3.08	3.07	2.03	0.72
50th-Percentile Queue Length [ft/ln]	11.68	60.85	60.83	9.75	77.01	76.73	50.74	17.90
95th-Percentile Queue Length [veh/ln]	0.84	4.38	4.38	0.70	5.54	5.52	3.65	1.29
95th-Percentile Queue Length [ft/ln]	21.03	109.52	109.49	17.55	138.62	138.11	91.33	32.22

**Movement, Approach, & Intersection Results**

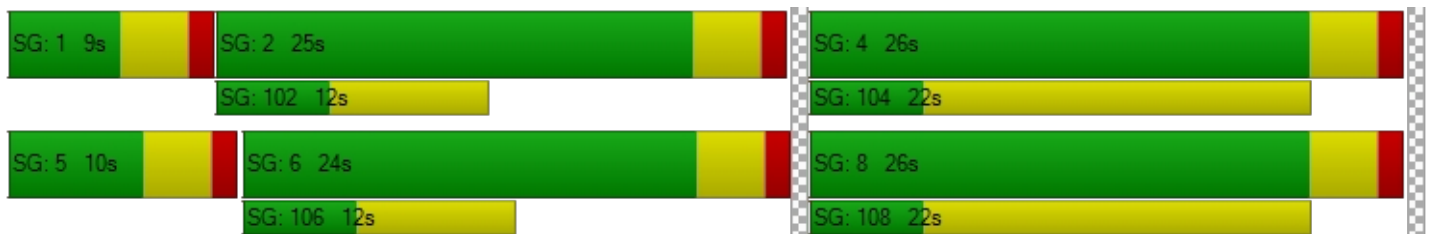
d_M, Delay for Movement [s/veh]	37.18	6.09	6.09	38.01	6.94	6.95	27.22	27.22	27.22	24.69	24.69	24.69
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.84			7.48			27.22			24.69		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.75											
Intersection LOS	A											
Intersection V/C	0.441											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.763			2.885			1.813			1.759		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.446			2.571			1.814			1.660		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	38	677	7	14	808	23	34	12	75	43	11	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	163	2	1	238	1	4	0	37	2	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	0	0	0	0	0	0	4
Total Hourly Volume [veh/h]	74	854	7	15	1062	24	39	12	114	46	11	10
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	227	2	4	283	6	10	3	30	12	3	3
Total Analysis Volume [veh/h]	79	909	7	16	1131	26	42	13	121	49	12	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	25	0	9	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	39	39	1	36	36	8	8
g / C, Green / Cycle	0.06	0.64	0.64	0.02	0.60	0.60	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.25	0.01	0.32	0.32	0.11	0.06
s, saturation flow rate [veh/h]	1593	1800	1795	1619	1800	1786	1590	1233
c, Capacity [veh/h]	99	1154	1151	33	1079	1070	295	272
d1, Uniform Delay [s]	27.79	5.20	5.20	29.10	7.12	7.13	24.98	23.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.27	1.03	1.03	10.30	1.93	1.95	1.93	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.79	0.40	0.40	0.48	0.54	0.54	0.60	0.26
d, Delay for Lane Group [s/veh]	41.06	6.22	6.22	39.40	9.05	9.07	26.91	23.94
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.43	2.22	2.22	0.31	3.81	3.79	2.42	0.91
50th-Percentile Queue Length [ft/ln]	35.68	55.53	55.40	7.82	95.27	94.68	60.58	22.80
95th-Percentile Queue Length [veh/ln]	2.57	4.00	3.99	0.56	6.86	6.82	4.36	1.64
95th-Percentile Queue Length [ft/ln]	64.22	99.96	99.73	14.08	171.49	170.42	109.04	41.04

**Movement, Approach, & Intersection Results**

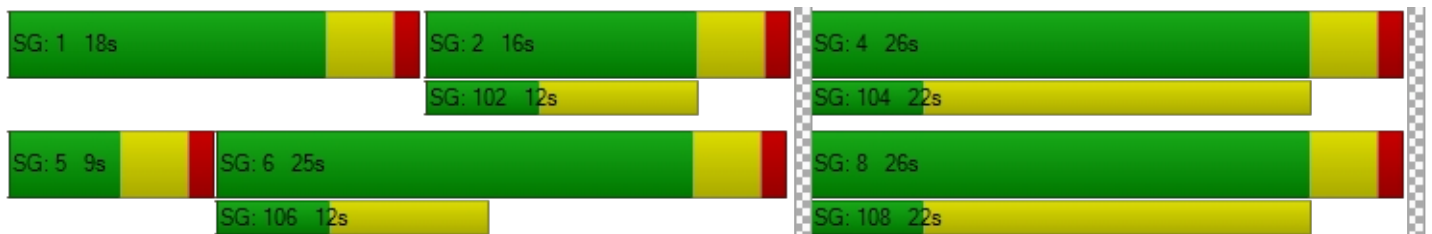
d_M, Delay for Movement [s/veh]	41.06	6.22	6.22	39.40	9.06	9.07	26.91	26.91	26.91	23.94	23.94	23.94
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.99			9.48			26.91			23.94		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	10.98											
Intersection LOS	B											
Intersection V/C	0.483											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.801			2.757			1.838			1.757		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			400			733			733		
d_b, Bicycle Delay [s]	12.69			19.22			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.382			2.527			1.850			1.685		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	33.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.757

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	630	97	129	806	5	8	0	9	141	1	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	137	160	177	100	0	0	0	0	52	0	62
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	65	0	0	1	0	0	2	0	0	27
Total Hourly Volume [veh/h]	4	780	194	309	922	4	8	0	7	196	1	81
Peak Hour Factor	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	221	55	87	261	1	2	0	2	55	0	23
Total Analysis Volume [veh/h]	5	883	220	350	1044	5	9	0	8	222	1	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	19	0	15	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	22	22	11	32	32	15	15	15
g / C, Green / Cycle	0.01	0.36	0.36	0.18	0.54	0.54	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.00	0.32	0.32	0.22	0.29	0.29	0.07	0.22	0.06
s, saturation flow rate [veh/h]	1619	1800	1678	1619	1800	1797	234	999	1530
c, Capacity [veh/h]	12	649	604	297	966	964	152	376	392
d1, Uniform Delay [s]	29.68	17.99	18.00	24.51	9.10	9.10	18.24	21.39	17.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.17	15.73	16.78	87.97	2.19	2.20	0.32	1.50	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.88	0.88	1.18	0.54	0.54	0.11	0.59	0.23
d, Delay for Lane Group [s/veh]	52.85	33.72	34.78	112.48	11.29	11.30	18.56	22.89	17.97
Lane Group LOS	D	C	C	F	B	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.14	9.34	8.90	11.17	4.18	4.18	0.18	2.89	0.96
50th-Percentile Queue Length [ft/ln]	3.58	233.60	222.40	279.13	104.56	104.46	4.42	72.17	24.08
95th-Percentile Queue Length [veh/ln]	0.26	14.36	13.79	17.94	7.53	7.52	0.32	5.20	1.73
95th-Percentile Queue Length [ft/ln]	6.45	358.93	344.69	448.40	188.21	188.03	7.96	129.90	43.34

**Movement, Approach, & Intersection Results**

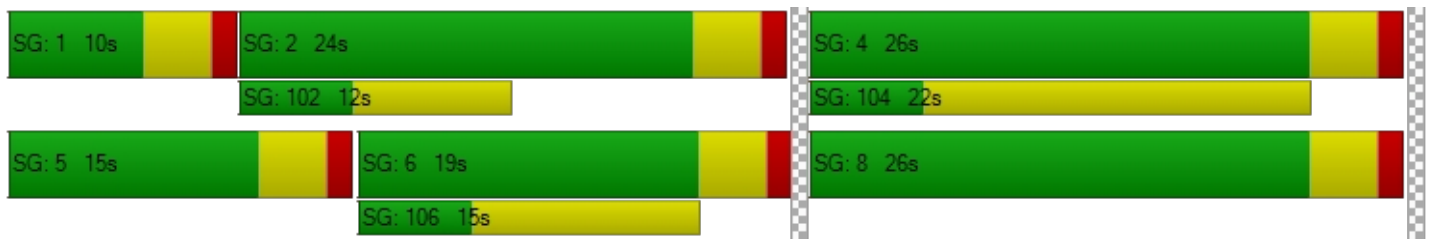
d_M, Delay for Movement [s/veh]	52.85	34.09	34.78	112.48	11.30	11.30	18.56	18.56	18.56	22.89	22.89	17.97
Movement LOS	D	C	C	F	B	B	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	34.31			36.61			18.56			21.45		
Approach LOS	C			D			B			C		
d_I, Intersection Delay [s/veh]	33.92											
Intersection LOS	C											
Intersection V/C	0.757											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.69	21.69	21.69
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.765	1.714	2.277
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	666	733	733
d_b, Bicycle Delay [s]	16.88	13.34	12.04	12.04
I_b,int, Bicycle LOS Score for Intersection	2.527	2.715	1.591	2.124
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	72.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.925

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	156	73	74	77	0	0	0	0	20	0	142
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	7	0	0	0	0	0	158
Total Hourly Volume [veh/h]	42	428	433	549	465	20	29	66	27	235	101	475
Peak Hour Factor	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	122	124	157	133	6	8	19	8	67	29	136
Total Analysis Volume [veh/h]	48	489	494	627	531	23	33	75	31	268	115	542
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	69	43	0	47	21	0	0	12	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	39	39	43	77	77	8	8	24
g / C, Green / Cycle	0.04	0.30	0.30	0.33	0.60	0.60	0.06	0.06	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.31	0.35	0.15	0.01	0.02	0.06	0.21
s, saturation flow rate [veh/h]	1781	3560	1589	1810	3560	1615	1810	1807	1836
c, Capacity [veh/h]	63	1072	479	597	2120	962	110	110	339
d1, Uniform Delay [s]	62.13	36.80	45.43	43.55	12.50	10.79	58.38	60.88	53.00
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.38
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.54	1.40	49.60	50.60	0.28	0.05	1.49	31.24	83.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.76	0.46	1.03	1.05	0.25	0.02	0.30	0.96	1.13
d, Delay for Lane Group [s/veh]	78.67	38.20	95.02	94.15	12.78	10.83	59.87	92.12	136.07
Lane Group LOS	E	D	F	F	B	B	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.87	6.55	21.92	27.38	3.74	0.29	1.09	4.45	18.87
50th-Percentile Queue Length [ft/ln]	46.69	163.73	547.99	684.44	93.52	7.14	27.21	111.25	471.70
95th-Percentile Queue Length [veh/ln]	3.36	10.75	30.21	37.18	6.73	0.51	1.96	7.91	27.66
95th-Percentile Queue Length [ft/ln]	84.04	268.66	755.37	929.45	168.34	12.86	48.98	197.73	691.48

**Movement, Approach, & Intersection Results**

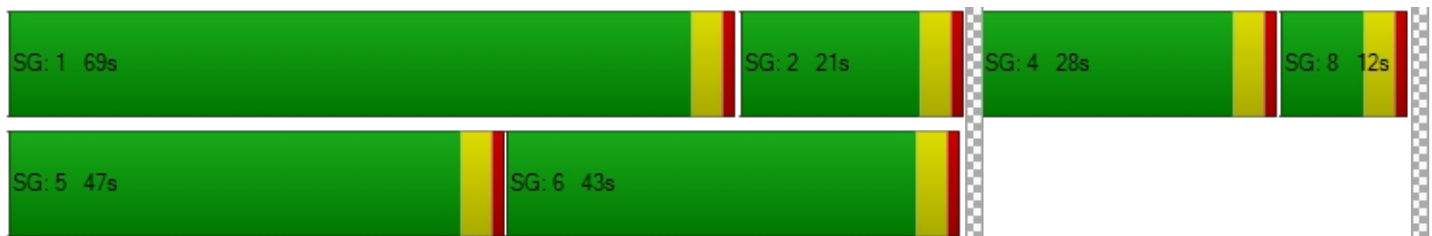
d_M, Delay for Movement [s/veh]	78.67	38.20	95.02	94.15	12.78	10.83	59.87	92.12	92.12	136.07	136.07	0.00
Movement LOS	E	D	F	F	B	B	E	F	F	F	F	
d_A, Approach Delay [s/veh]	67.31			55.94			84.46			136.07		
Approach LOS	E			E			F			F		
d_I, Intersection Delay [s/veh]	72.90											
Intersection LOS	E											
Intersection V/C	0.925											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			262			123			369		
d_b, Bicycle Delay [s]	31.85			49.11			57.25			43.22		
I_b,int, Bicycle LOS Score for Intersection	2.410			2.540			1.789			2.192		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	34.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.831

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	5	163	17	227	359	505	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	48	0	22	80	69	0	0	140	169
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	5	0	0	0
Total Hourly Volume [veh/h]	9	5	5	214	17	254	446	584	16	5	702	394
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	59	5	70	123	162	4	1	194	109
Total Analysis Volume [veh/h]	10	6	6	237	19	281	493	646	18	6	777	436
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	46	55	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27	29	56	56	1	28	28
g / C, Green / Cycle	0.28	0.28	0.28	0.30	0.59	0.59	0.01	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.28	0.18	0.28	0.18	0.01	0.00	0.22	0.27
s, saturation flow rate [veh/h]	190	914	1589	1781	3560	1615	1781	3560	1589
c, Capacity [veh/h]	108	329	444	536	2084	945	16	1044	466
d1, Uniform Delay [s]	27.96	34.49	29.96	32.11	9.98	8.27	46.83	30.35	32.70
k, delay calibration	0.50	0.50	0.50	0.18	0.11	0.11	0.11	0.11	0.35
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.20	16.57	6.70	10.95	0.08	0.01	14.13	1.07	22.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.20	0.78	0.63	0.92	0.31	0.02	0.38	0.74	0.94
d, Delay for Lane Group [s/veh]	32.16	51.06	36.66	43.06	10.07	8.27	60.96	31.43	55.07
Lane Group LOS	C	D	D	D	B	A	E	C	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.49	7.29	6.33	12.24	3.20	0.15	0.20	7.99	12.37
50th-Percentile Queue Length [ft/ln]	12.14	182.27	158.33	306.10	79.98	3.71	5.06	199.75	309.22
95th-Percentile Queue Length [veh/ln]	0.87	11.72	10.46	17.98	5.76	0.27	0.36	12.63	18.14
95th-Percentile Queue Length [ft/ln]	21.85	292.97	261.50	449.57	143.96	6.68	9.12	315.64	453.42

**Movement, Approach, & Intersection Results**

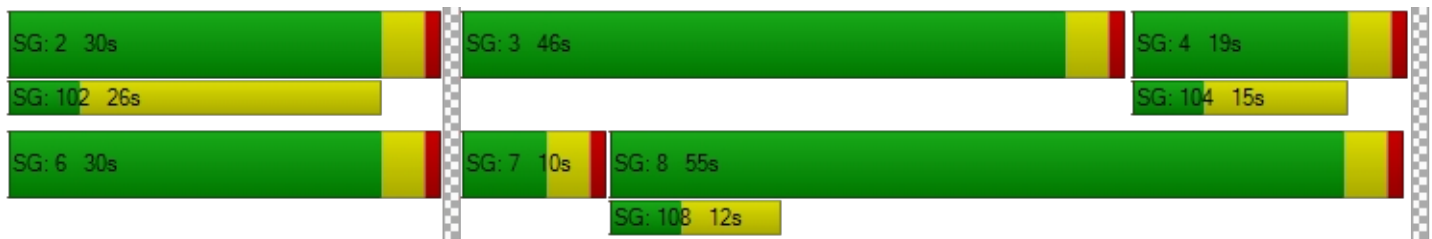
d_M, Delay for Movement [s/veh]	32.16	32.16	32.16	51.06	51.06	36.66	43.06	10.07	8.27	60.96	31.43	55.07
Movement LOS	C	C	C	D	D	D	D	B	A	E	C	E
d_A, Approach Delay [s/veh]	32.16			43.52			24.10			40.03		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	34.33											
Intersection LOS	C											
Intersection V/C	0.831											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	38.93	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.753	2.423	2.841	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	547	1074	316
d_b, Bicycle Delay [s]	25.06	25.06	10.19	33.69
I_b,int, Bicycle LOS Score for Intersection	1.596	2.446	2.518	2.565
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.751

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	303	0	0	108	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	0	0	0	21	0	0	0
Total Hourly Volume [veh/h]	80	1091	155	31	751	0	4	31	63	103	17	21
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	294	42	8	203	0	1	8	17	28	5	6
Total Analysis Volume [veh/h]	86	1177	167	33	810	0	4	33	68	111	18	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	39	62	0	9	32	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	84	84	3	80	80	7	7	9	9
g / C, Green / Cycle	0.06	0.70	0.70	0.03	0.67	0.67	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.05	0.63	0.10	0.02	0.43	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1890	1615	1810	1729
c, Capacity [veh/h]	111	1312	1133	50	1249	1062	110	94	142	136
d1, Uniform Delay [s]	55.50	14.44	5.97	57.74	11.66	0.00	54.28	55.55	54.27	52.18
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.76	9.89	0.27	13.54	2.61	0.00	1.77	9.90	8.87	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.77	0.90	0.15	0.66	0.65	0.00	0.34	0.72	0.78	0.30
d, Delay for Lane Group [s/veh]	66.26	24.33	6.24	71.28	14.27	0.00	56.05	65.45	63.14	53.41
Lane Group LOS	E	C	A	E	B	A	E	E	E	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.90	26.00	1.40	1.18	12.57	0.00	1.13	2.28	3.64	1.22
50th-Percentile Queue Length [ft/ln]	72.44	650.12	35.01	29.54	314.31	0.00	28.26	57.08	91.06	30.38
95th-Percentile Queue Length [veh/ln]	5.22	34.37	2.52	2.13	18.39	0.00	2.03	4.11	6.56	2.19
95th-Percentile Queue Length [ft/ln]	130.40	859.20	63.01	53.18	459.69	0.00	50.86	102.75	163.90	54.69

**Movement, Approach, & Intersection Results**

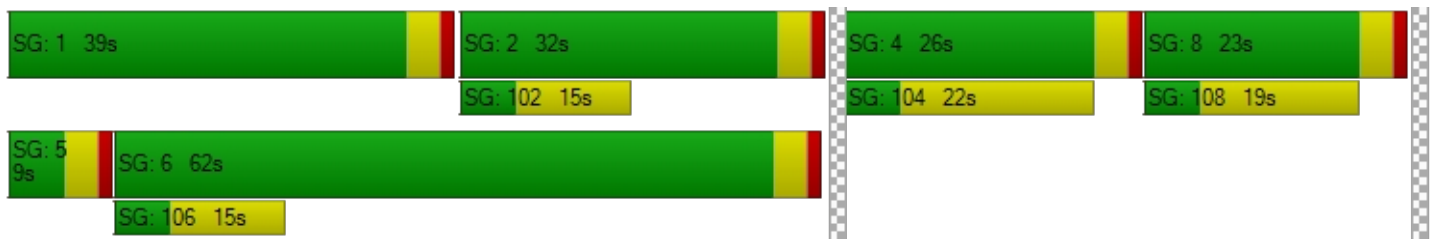
d_M, Delay for Movement [s/veh]	66.26	24.33	6.24	71.28	14.27	0.00	56.05	56.05	65.45	63.14	53.41	53.41
Movement LOS	E	C	A	E	B	A	E	E	E	E	D	D
d_A, Approach Delay [s/veh]	24.74			16.50			62.14			60.51		
Approach LOS	C			B			E			E		
d_I, Intersection Delay [s/veh]	25.70											
Intersection LOS	C											
Intersection V/C	0.751											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.35	51.35	51.35	51.35
I_p,int, Pedestrian LOS Score for Intersection	2.828	2.714	2.060	2.097
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	967	467	317	367
d_b, Bicycle Delay [s]	16.02	35.27	42.51	40.02
I_b,int, Bicycle LOS Score for Intersection	4.005	2.951	1.768	1.810
Bicycle LOS	D	C	A	A

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.505

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵			↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	30	1004	197	41	760	0	0	0	9	197	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	315	0	4	104	0	0	0	0	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	50	0	0	0	0	0	2	0	0	14
Total Hourly Volume [veh/h]	31	1339	151	46	879	0	0	0	7	201	5	41
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	369	42	13	243	0	0	0	2	55	1	11
Total Analysis Volume [veh/h]	34	1478	167	51	970	0	0	0	8	222	6	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	26	26	9	17	0	0	14	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	48	48	3	49	49	1	1	7	7	7
g / C, Green / Cycle	0.03	0.64	0.64	0.04	0.65	0.65	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.41	0.10	0.03	0.26	0.26	0.00	0.00	0.06	0.06	0.03
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	65	2294	1024	82	1223	1223	23	19	174	174	155
d1, Uniform Delay [s]	35.65	8.52	5.62	35.28	6.41	6.41	0.00	36.91	32.81	32.80	31.62
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.52	1.41	0.34	7.43	0.96	0.96	0.00	13.64	4.14	4.13	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.64	0.16	0.62	0.40	0.40	0.00	0.42	0.66	0.66	0.29
d, Delay for Lane Group [s/veh]	42.17	9.93	5.96	42.71	7.38	7.38	0.00	50.55	36.95	36.93	32.64
Lane Group LOS	D	A	A	D	A	A	A	D	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.71	6.33	0.97	1.06	3.26	3.26	0.00	0.22	2.14	2.15	0.78
50th-Percentile Queue Length [ft/ln]	17.87	158.33	24.36	26.61	81.53	81.53	0.00	5.39	53.60	53.69	19.61
95th-Percentile Queue Length [veh/ln]	1.29	10.46	1.75	1.92	5.87	5.87	0.00	0.39	3.86	3.87	1.41
95th-Percentile Queue Length [ft/ln]	32.16	261.50	43.85	47.90	146.76	146.76	0.00	9.71	96.48	96.64	35.30

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	42.17	9.93	5.96	42.71	7.38	7.38	0.00	0.00	50.55	36.94	36.93	32.64
Movement LOS	D	A	A	D	A	A	A	A	D	D	D	C
d_A, Approach Delay [s/veh]	10.19			9.14			50.55			36.23		
Approach LOS	B			A			D			D		
d_I, Intersection Delay [s/veh]	12.32											
Intersection LOS	B											
Intersection V/C	0.505											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			29.10			0.00			29.10		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.791			0.000			2.279		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	586			346			266			586		
d_b, Bicycle Delay [s]	18.78			25.68			28.23			18.78		
I_b,int, Bicycle LOS Score for Intersection	2.986			2.402			1.576			2.033		
Bicycle LOS	C			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	153	260	0	0	831	137	0	0	0	101	0	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	68	0	0	97	6	0	0	0	0	0	246
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	37	0	0	0	0	0	309
Total Hourly Volume [veh/h]	156	333	0	0	945	109	0	0	0	103	0	925
Peak Hour Factor	0.8970	0.8970	1.0000	1.0000	0.8970	0.8970	1.0000	1.0000	1.0000	0.8970	1.0000	0.8970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	93	0	0	263	30	0	0	0	29	0	258
Total Analysis Volume [veh/h]	174	371	0	0	1054	122	0	0	0	115	0	1031
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.59		0.09
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.29		0.06
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	222	2822	2138		157
d1, Uniform Delay [s]	25.61	1.62	7.10		26.79
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.96	0.10	0.82		6.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.78	0.13	0.49		0.73
d, Delay for Lane Group [s/veh]	31.58	1.72	7.92		33.19
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.63	0.20	3.15		1.80
50th-Percentile Queue Length [ft/ln]	65.86	4.93	78.83		44.98
95th-Percentile Queue Length [veh/ln]	4.74	0.35	5.68		3.24
95th-Percentile Queue Length [ft/ln]	118.55	8.87	141.89		80.96



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	31.58	1.72	0.00	0.00	7.92	0.00	0.00	0.00	0.00	0.00	33.19	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	11.25			7.92			0.00			33.19			
Approach LOS	B			A			A			C			
d_I, Intersection Delay [s/veh]	10.67												
Intersection LOS	B												
Intersection V/C	0.451												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.958		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	599			166			0			1132		
d_b, Bicycle Delay [s]	14.74			25.25			30.04			5.66		
I_b,int, Bicycle LOS Score for Intersection	2.009			2.429			4.132			1.560		
Bicycle LOS	B			B			D			A		

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.660

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			←↑↑			↑↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	127	664	265	0	112	0	337	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	62	0	74	23	0	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	33	0	0	0	0	0	86	0	0	0
Total Hourly Volume [veh/h]	0	369	97	751	293	0	120	0	258	0	0	0
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	26	204	80	0	33	0	70	0	0	0
Total Analysis Volume [veh/h]	0	401	105	816	318	0	130	0	280	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0				0
v_di, Inbound Pedestrian Volume crossing in		0			0			0				0
v_co, Outbound Pedestrian Volume crossing		0			0			0				0
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0				0
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0				0
Bicycle Volume [bicycles/h]		0			0			0				0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	36	48	0	12	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	11	29	44	8	8	
g / C, Green / Cycle	0.19	0.48	0.74	0.13	0.13	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.45	0.09	0.07	0.10	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	682	872	2665	236	372	
d1, Uniform Delay [s]	22.27	14.72	2.29	24.52	25.23	
k, delay calibration	0.50	0.34	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.69	13.94	0.09	2.01	3.08	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.59	0.94	0.12	0.55	0.75	
d, Delay for Lane Group [s/veh]	25.96	28.66	2.38	26.53	28.31	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	2.75	11.96	0.30	1.76	1.97	
50th-Percentile Queue Length [ft/ln]	68.70	299.05	7.38	44.06	49.17	
95th-Percentile Queue Length [veh/ln]	4.95	17.63	0.53	3.17	3.54	
95th-Percentile Queue Length [ft/ln]	123.66	440.85	13.28	79.31	88.50	

**Movement, Approach, & Intersection Results**

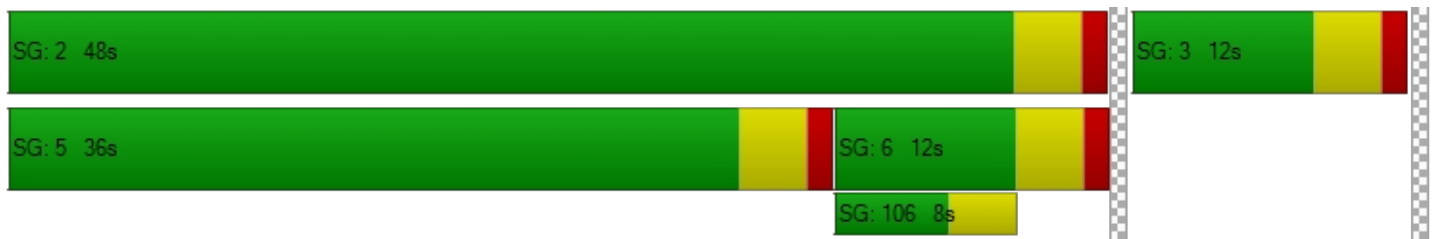
d_M, Delay for Movement [s/veh]	0.00	25.96	0.00	28.66	2.38	0.00	26.53	0.00	28.31	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	25.96			21.29			27.74			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	23.61											
Intersection LOS	C											
Intersection V/C	0.660											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.200		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			1465			266			0		
d_b, Bicycle Delay [s]	22.57			2.15			22.57			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.890			2.495			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 3 OY AM

Report File: C:\...\OY AM.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	658	831	328	574	716	1116	1069	607	427	705	7031

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	149	1279	96	658	953	170	197	217	61	53	260	394	4487

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1461	23	57	971	10	64	2586

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	137	1278	36	60	819	85	107	70	42	49	95	93	2871

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	5	3	3	11	0	10	9	238	3	8	240	10	540

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	67	184	31	6	126	5	5	118	97	62	157	19	877

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	235	99	22	254	236	38	884

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	9	8	10	16	12	33	7	146	6	8	195	18	468

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	27	4	1	121	276	6	435

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	5	39	5	14	18	13	1	132	6	3	264	17	517

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	436	1209	1327	1032	494	5	496	4999

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1106	445	495	1327	541	4	620	4538

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	9	1366	4	82	1656	194	94	0	33	0	0	101	3539

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	116	948	15	224	1224	261	229	84	86	11	127	198	3523

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	96	896	18	63	1168	54	64	45	91	10	69	39	2613



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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	90	855	33	94	1045	129	85	40	44	31	55	50	2551

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	23	938	1	19	1060	20	83	30	26	21	16	18	2255

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	74	854	9	15	1062	24	39	12	114	46	11	14	2274

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	780	259	309	922	5	8	0	9	196	1	108	2601

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	42	428	433	549	465	27	29	66	27	235	101	633	3035

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	5	214	17	254	446	584	21	5	702	394	2656

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	80	1091	207	31	751	0	4	31	84	103	17	21	2420

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	31	1339	201	46	879	0	0	0	9	201	5	55	2766

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	156	333	945	146	103	1234	2917

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	369	130	751	293	120	344	2007

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## Bloomington Business Park Specific Plan

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Scenario 4 OY PM

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7/12/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Left	0.702	35.1	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.701	40.0	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.370	3.8	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.451	21.7	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.560	12.7	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	1.311	98.6	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	1.043	169.2	F
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	SB Left	0.080	18.2	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.040	15.8	C
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.770	17.4	C
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	0.997	60.2	E
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	NB Thru	0.850	42.5	D
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.665	18.1	B
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.887	70.5	E
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.702	27.6	C
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	3.053	102.3	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	NB Left	0.479	9.5	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	NB Left	0.701	26.1	C
19	Cedar Ave/El Rivino Rd	Signalized	HCM 6th Edition	WB Left	0.975	56.7	E
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	SB Left	1.038	98.7	F
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	SB Left	0.978	37.5	D
22	Market St/24th St	Signalized	HCM 6th Edition	SB Thru	0.912	72.2	E
23	Market St/Rivera St	Signalized	HCM 6th Edition	NB Left	0.489	15.0	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.588	12.1	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.843	43.7	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.702

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	475	1171	571	592	946	882	976	0	525	479	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	80	50	44	0	18	0	0	0	29	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	157	0	0	225	0	0	141	0	0	154
Total Hourly Volume [veh/h]	565	1244	469	604	983	675	996	0	424	505	0	463
Peak Hour Factor	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	1.0000	0.9910	0.9910	1.0000	0.9910
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	143	314	118	152	248	170	251	0	107	127	0	117
Total Analysis Volume [veh/h]	570	1255	473	609	992	681	1005	0	428	510	0	467
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	42	22	43	35	35
g / C, Green / Cycle	0.19	0.38	0.20	0.39	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.16	0.24	0.17	0.19	0.29	0.15
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	652	1963	688	2017	1109	1109
d1, Uniform Delay [s]	43.50	27.93	42.97	25.31	36.05	30.11
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.89	1.61	4.02	0.86	3.16	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.87	0.64	0.88	0.49	0.91	0.46
d, Delay for Lane Group [s/veh]	47.39	29.54	46.99	26.17	39.21	30.41
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	7.68	8.92	8.28	6.51	12.04	4.94
50th-Percentile Queue Length [ft/ln]	191.97	223.03	207.09	162.86	300.95	123.55
95th-Percentile Queue Length [veh/ln]	12.22	13.82	13.00	10.70	17.73	8.59
95th-Percentile Queue Length [ft/ln]	305.59	345.48	325.09	267.51	443.20	214.69

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	47.39	29.54	0.00	46.99	26.17	0.00	39.21	0.00	0.00	30.41	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	35.12			34.09			39.21			30.41		
Approach LOS	D			C			D			C		
d_I, Intersection Delay [s/veh]	35.13											
Intersection LOS	D											
Intersection V/C	0.702											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	46.34	46.34
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	3.019	2.858
Crosswalk LOS	F	F	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	509	509	800	800
d_b, Bicycle Delay [s]	30.53	30.53	19.77	19.77
I_b,int, Bicycle LOS Score for Intersection	2.563	2.440	1.560	1.560
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	40.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	1262	183	675	1117	134	308	523	80	181	307	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	58	3	37	22	4	12	15	1	6	26	104
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	48	0	0	35	0	0	21	0	0	206
Total Hourly Volume [veh/h]	171	1345	142	726	1161	106	326	548	62	191	339	619
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	347	37	187	299	27	84	141	16	49	87	160
Total Analysis Volume [veh/h]	176	1387	146	748	1197	109	336	565	64	197	349	638
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	22	40	0	32	50	0	18	40	0	18	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	53	53	28	73	73	14	23	23	9	19	51
g / C, Green / Cycle	0.07	0.41	0.41	0.22	0.56	0.56	0.11	0.18	0.18	0.07	0.14	0.39
(v / s)_i Volume / Saturation Flow Rate	0.05	0.22	0.22	0.21	0.24	0.24	0.10	0.16	0.04	0.06	0.10	0.22
s, saturation flow rate [veh/h]	3514	5176	1783	3514	3618	1820	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	236	2127	733	757	2023	1018	380	644	288	255	516	1111
d1, Uniform Delay [s]	59.55	28.94	28.94	50.84	16.62	16.66	57.18	52.04	45.72	59.25	52.91	31.28
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.64	0.97	2.81	12.69	0.67	1.34	6.90	4.00	0.39	4.96	1.56	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.54	0.54	0.99	0.43	0.43	0.88	0.88	0.22	0.77	0.68	0.57
d, Delay for Lane Group [s/veh]	64.19	29.91	31.75	63.53	17.29	17.99	64.08	56.04	46.11	64.21	54.47	31.75
Lane Group LOS	E	C	C	E	B	B	E	E	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.92	8.71	9.38	13.21	7.35	7.65	5.69	9.10	1.77	3.28	5.36	7.58
50th-Percentile Queue Length [ft/ln]	73.06	217.65	234.54	330.28	183.73	191.30	142.16	227.54	44.28	81.90	134.02	189.56
95th-Percentile Queue Length [veh/ln]	5.26	13.54	14.40	19.17	11.80	12.19	9.60	14.05	3.19	5.90	9.16	12.10
95th-Percentile Queue Length [ft/ln]	131.51	338.62	360.12	479.30	294.88	304.71	239.94	351.24	79.71	147.42	228.94	302.45

**Movement, Approach, & Intersection Results**

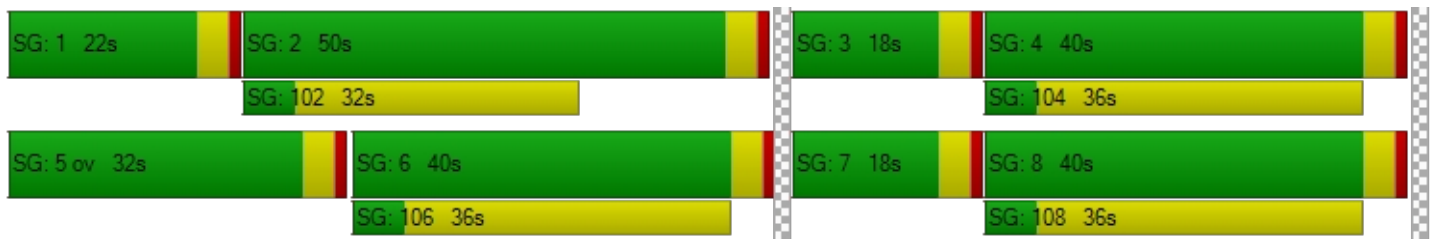
d_M, Delay for Movement [s/veh]	64.19	30.24	31.75	63.53	17.48	17.99	64.08	56.04	46.11	64.21	54.47	31.75
Movement LOS	E	C	C	E	B	B	E	E	D	E	D	C
d_A, Approach Delay [s/veh]	33.86			34.28			58.18			43.85		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	39.98											
Intersection LOS	D											
Intersection V/C	0.701											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.521	3.590	3.077	3.684
Crosswalk LOS	D	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	708	554	554
d_b, Bicycle Delay [s]	33.99	27.14	33.99	33.99
I_b,int, Bicycle LOS Score for Intersection	2.284	2.709	2.373	2.706
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	3.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.370

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1569	13	48	1343	9	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	0	0	28	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	3	0	0	0	13
Total Hourly Volume [veh/h]	1663	10	49	1398	9	39
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	429	3	13	360	2	10
Total Analysis Volume [veh/h]	1714	10	51	1441	9	40
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	9	58	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	76	76	4	83	4	4
g / C, Green / Cycle	0.80	0.80	0.04	0.88	0.04	0.04
(v / s)_i Volume / Saturation Flow Rate	0.33	0.01	0.01	0.28	0.00	0.02
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4117	1285	139	4539	70	63
d1, Uniform Delay [s]	2.97	2.00	44.47	1.00	44.12	45.01
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.31	0.01	1.62	0.18	0.82	10.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.01	0.37	0.32	0.13	0.64
d, Delay for Lane Group [s/veh]	3.28	2.01	46.09	1.18	44.93	55.36
Lane Group LOS	A	A	D	A	D	E
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.48	0.02	0.61	0.31	0.22	1.10
50th-Percentile Queue Length [ft/ln]	36.94	0.50	15.32	7.82	5.48	27.56
95th-Percentile Queue Length [veh/ln]	2.66	0.04	1.10	0.56	0.39	1.98
95th-Percentile Queue Length [ft/ln]	66.48	0.90	27.57	14.07	9.87	49.61

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.28	2.01	46.09	1.18	44.93	55.36
Movement LOS	A	A	D	A	D	E
d_A, Approach Delay [s/veh]	3.28		2.71		53.45	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.77					
Intersection LOS	A					
Intersection V/C	0.370					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	38.93	38.93
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.127	2.184
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	947	1137	695
d_b, Bicycle Delay [s]	13.16	8.85	20.23
I_b,int, Bicycle LOS Score for Intersection	2.509	2.380	1.560
Bicycle LOS	B	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	163	1298	43	104	1127	97	155	135	124	99	118	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	0	2	19	8	22	21	0	0	15	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	27	0	0	0	0	0	26
Total Hourly Volume [veh/h]	166	1360	44	108	1169	80	180	159	126	101	135	79
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	343	11	27	295	20	45	40	32	26	34	20
Total Analysis Volume [veh/h]	168	1374	44	109	1181	81	182	161	127	102	136	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	34	0	9	32	0	16	40	0	12	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	56	56	5	54	54	11	11	11	7	7	7
g / C, Green / Cycle	0.07	0.59	0.59	0.05	0.57	0.57	0.12	0.12	0.12	0.07	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.03	0.03	0.24	0.24	0.10	0.04	0.08	0.06	0.04	0.05
s, saturation flow rate [veh/h]	3459	5094	1589	3514	3560	1809	1810	3618	1589	1781	3618	1615
c, Capacity [veh/h]	239	2987	932	178	2022	1028	217	439	193	131	271	121
d1, Uniform Delay [s]	43.33	11.15	8.37	44.25	11.61	11.61	40.97	38.45	39.93	43.33	42.32	42.85
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.74	0.51	0.10	3.37	0.63	1.23	8.34	0.51	3.80	9.58	1.44	6.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.46	0.05	0.61	0.41	0.41	0.84	0.37	0.66	0.78	0.50	0.66
d, Delay for Lane Group [s/veh]	47.07	11.66	8.47	47.62	12.23	12.84	49.31	38.96	43.73	52.91	43.77	48.93
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.04	5.16	0.39	1.33	4.82	5.07	4.63	1.74	3.01	2.69	1.58	2.02
50th-Percentile Queue Length [ft/ln]	51.03	129.02	9.67	33.30	120.47	126.76	115.63	43.61	75.26	67.14	39.45	50.47
95th-Percentile Queue Length [veh/ln]	3.67	8.89	0.70	2.40	8.42	8.76	8.15	3.14	5.42	4.83	2.84	3.63
95th-Percentile Queue Length [ft/ln]	91.86	222.17	17.41	59.94	210.47	219.08	203.81	78.50	135.47	120.85	71.01	90.85

**Movement, Approach, & Intersection Results**

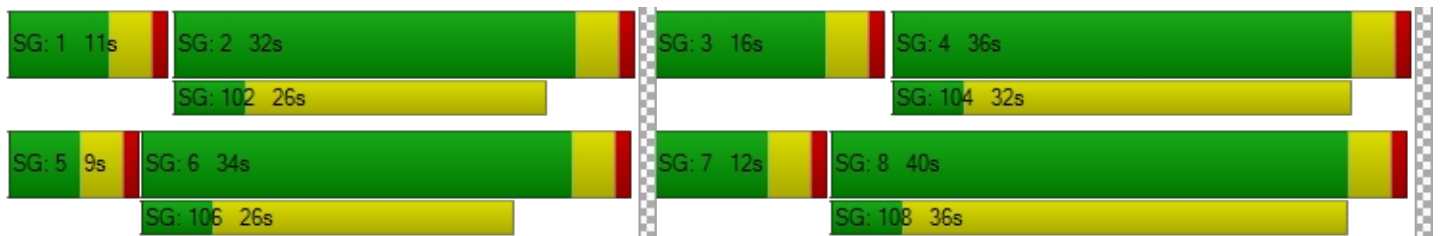
d_M, Delay for Movement [s/veh]	47.07	11.66	8.47	47.62	12.41	12.84	49.31	38.96	43.73	52.91	43.77	48.93
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.32			15.24			44.26			48.00		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	21.70											
Intersection LOS	C											
Intersection V/C	0.451											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.97	38.97	38.97	38.97
I_p,int, Pedestrian LOS Score for Intersection	3.178	3.141	2.600	2.601
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	631	589	757	673
d_b, Bicycle Delay [s]	22.27	23.66	18.36	20.92
I_b,int, Bicycle LOS Score for Intersection	2.432	2.329	1.947	1.843
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	6	25	7	9	11	360	6	9	305	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	43	0	0	73	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	9	6	26	7	9	11	410	6	9	384	17
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	7	2	2	3	107	2	2	100	4
Total Analysis Volume [veh/h]	1	9	6	27	7	9	11	427	6	9	400	18
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	631	615	793	793
Degree of Utilization, x	0.03	0.07	0.56	0.54

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.08	0.22	3.53	3.27
95th-Percentile Queue Length [ft]	1.95	5.62	88.35	81.76
Approach Delay [s/veh]	8.86	9.30	13.17	12.72
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	12.71			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	98.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.311

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	74	0	0	25	0	0	32	10	0	41	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	132	348	67	17	251	10	8	262	175	40	240	30
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	90	17	4	65	3	2	68	45	10	62	8
Total Analysis Volume [veh/h]	137	360	69	18	260	10	8	271	181	41	248	31
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	566	400	460	409
Degree of Utilization, x	1.31	0.72	1.04	0.78

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	25.22	5.52	14.27	6.73
95th-Percentile Queue Length [ft]	630.38	138.12	356.65	168.31
Approach Delay [s/veh]	180.53	31.94	82.28	37.05
Approach LOS	F	D	F	E
Intersection Delay [s/veh]	98.58			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	169.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.043

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name						
Base Volume Input [veh/h]	352	154	59	326	40	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	2.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	106	277	0	35	120	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	465	434	60	368	161	47
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	125	117	16	99	43	13
Total Analysis Volume [veh/h]	501	468	65	397	173	51
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.09	0.00	1.04	0.12
d_M, Delay for Movement [s/veh]	0.00	0.00	10.50	0.00	169.17	155.97
Movement LOS	A	A	B	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.30	0.30	11.34	11.34
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.42	7.42	283.62	283.62
d_A, Approach Delay [s/veh]	0.00		1.48		166.16	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	22.90					
Intersection LOS	F					



**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	18.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.080

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	11	8	11	13	16	21	16	269	13	13	249	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	11	0	3	8	25	0	0	39	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	8	11	24	16	24	24	299	13	13	293	32
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	3	6	4	6	6	79	3	3	78	8
Total Analysis Volume [veh/h]	12	8	12	25	17	25	25	317	14	14	311	34
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.02	0.02	0.08	0.05	0.03	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	17.94	16.70	10.80	18.21	17.50	11.76	8.00	0.00	0.00	7.94	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.26	0.59	0.59	0.59	0.06	0.06	0.06	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	6.60	6.60	6.60	14.64	14.64	14.64	1.56	1.56	1.56	0.86	0.86	0.86
d_A, Approach Delay [s/veh]	14.95			15.62			0.56			0.31		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.26											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	13	8	10	210	93	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	277	120	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	8	10	491	215	9
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	2	3	137	60	3
Total Analysis Volume [veh/h]	14	9	11	546	239	10
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	15.81	9.94	7.73	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.07	4.07	0.63	0.63	0.00	0.00
d_A, Approach Delay [s/veh]	13.52		0.15		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	277	0	0	120	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	32	10	39	51	15	30	461	20	8	214	53
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	10	13	4	8	121	5	2	56	14
Total Analysis Volume [veh/h]	14	34	10	41	53	16	31	483	21	8	224	55
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	587	596	668	773	640	734
Degree of Utilization, x	0.10	0.18	0.77	0.03	0.36	0.07

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.33	0.67	7.28	0.08	1.66	0.24
95th-Percentile Queue Length [ft]	8.18	16.77	181.88	2.09	41.38	6.06
Approach Delay [s/veh]	9.80	10.39	23.11		10.83	
Approach LOS	A	B	C		B	
Intersection Delay [s/veh]	17.36					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	60.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.997

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	205	94	0	0	42	0	0	0	0	64	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	163	0	0	0	0	0	144
Total Hourly Volume [veh/h]	542	1469	0	0	1229	487	0	0	0	417	5	433
Peak Hour Factor	0.9320	0.9320	1.0000	1.0000	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	145	394	0	0	330	131	0	0	0	112	1	116
Total Analysis Volume [veh/h]	582	1576	0	0	1319	523	0	0	0	447	5	465
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	26	55	0	0	29	0	0	0	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	80	80	80	80		80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	22	51	25	25		21	21
g / C, Green / Cycle	0.28	0.64	0.31	0.31		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.36	0.46	0.27	0.34		0.27	0.30
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1710	1530
c, Capacity [veh/h]	446	2184	1531	478		449	402
d1, Uniform Delay [s]	29.05	9.76	25.93	27.57		29.55	29.55
k, delay calibration	0.42	0.50	0.50	0.50		0.25	0.30
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	151.09	2.10	6.60	69.30		39.04	74.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.31	0.72	0.86	1.09		1.03	1.13
d, Delay for Lane Group [s/veh]	180.14	11.86	32.54	96.86		68.59	104.03
Lane Group LOS	F	B	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	26.84	8.20	8.40	17.82		13.11	15.69
50th-Percentile Queue Length [ft/ln]	670.97	204.88	210.04	445.57		327.82	392.32
95th-Percentile Queue Length [veh/ln]	40.76	12.89	13.16	26.16		19.42	23.70
95th-Percentile Queue Length [ft/ln]	1019.00	322.26	328.88	653.97		485.59	592.54

**Movement, Approach, & Intersection Results**

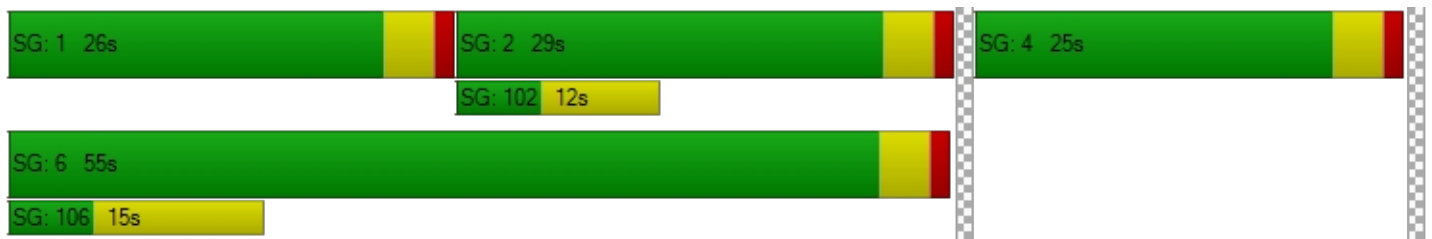
d_M, Delay for Movement [s/veh]	180.14	11.86	0.00	0.00	32.54	96.86	0.00	0.00	0.00	68.59	68.59	103.52
Movement LOS	F	B			C	F				E	E	F
d_A, Approach Delay [s/veh]	57.24				50.80		0.00		86.08			
Approach LOS	E				D		A		F			
d_I, Intersection Delay [s/veh]	60.21											
Intersection LOS	E											
Intersection V/C	0.997											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	31.55	31.55
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.331	2.486
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1274	624	0	524
d_b, Bicycle Delay [s]	5.28	18.95	40.04	21.80
I_b,int, Bicycle LOS Score for Intersection	3.340	2.662	4.132	3.310
Bicycle LOS	C	B	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	42.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.850

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1162	352	397	1083	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	299	165	0	106	0	0	0	92	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	131	0	0	0	0	0	84	0	0	0
Total Hourly Volume [veh/h]	0	1484	393	405	1211	0	594	2	250	0	0	0
Peak Hour Factor	1.0000	0.9660	0.9660	0.9660	0.9660	1.0000	0.9660	0.9660	0.9660	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	384	102	105	313	0	154	1	65	0	0	0
Total Analysis Volume [veh/h]	0	1536	407	419	1254	0	615	2	259	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	25	0	22	47	0	0	23	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	21	21	18	43	19	19	
g / C, Green / Cycle	0.30	0.30	0.26	0.61	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.27	0.26	0.37	0.27	0.28	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1602	
c, Capacity [veh/h]	1471	459	417	2106	440	435	
d1, Uniform Delay [s]	24.59	23.45	26.08	8.23	25.39	25.58	
k, delay calibration	0.50	0.50	0.16	0.50	0.17	0.19	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	35.99	21.60	26.20	1.25	20.98	32.57	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.04	0.89	1.00	0.60	0.98	1.02	
d, Delay for Lane Group [s/veh]	60.58	45.05	52.28	9.48	46.38	58.16	
Lane Group LOS	F	D	F	A	D	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	12.43	8.71	9.54	4.94	9.21	10.70	
50th-Percentile Queue Length [ft/ln]	310.73	217.87	238.51	123.54	230.14	267.40	
95th-Percentile Queue Length [veh/ln]	18.69	13.56	14.65	8.59	14.18	16.26	
95th-Percentile Queue Length [ft/ln]	467.28	338.91	366.13	214.68	354.54	406.56	

**Movement, Approach, & Intersection Results**

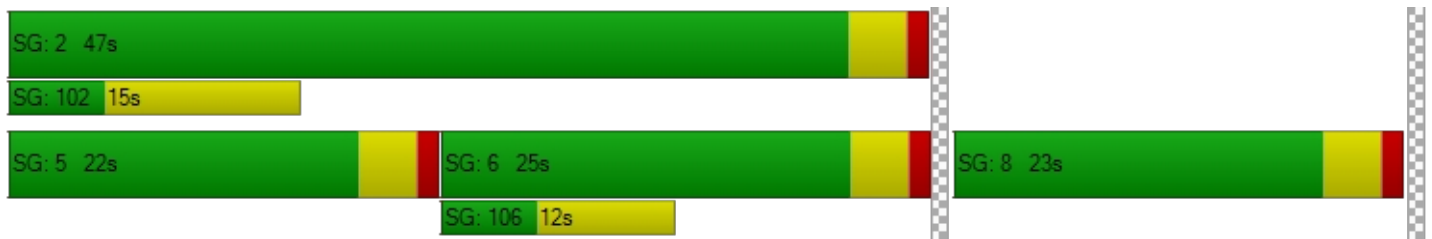
d_M, Delay for Movement [s/veh]	0.00	60.58	45.05	52.28	9.48	0.00	49.84	58.16	58.16	0.00	0.00	0.00
Movement LOS		F	D	F	A		D	E	E			
d_A, Approach Delay [s/veh]		57.32		20.20			52.36			0.00		
Approach LOS		E		C			D			A		
d_I, Intersection Delay [s/veh]	42.53											
Intersection LOS	D											
Intersection V/C	0.850											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		0.00		26.64		26.64
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.361		2.171
Crosswalk LOS	F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	599		1226		542		0
d_b, Bicycle Delay [s]	17.21		5.25		18.64		35.06
I_b,int, Bicycle LOS Score for Intersection	2.700		2.940		3.144		4.132
Bicycle LOS	B		C		C		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.665

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	1316	2	39	1056	233	177	4	16	1	2	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	464	0	0	198	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	30
Total Hourly Volume [veh/h]	7	1806	1	40	1275	238	181	4	16	1	2	90
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	462	0	10	326	61	46	1	4	0	1	23
Total Analysis Volume [veh/h]	7	1847	1	41	1304	243	185	4	16	1	2	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	33	40	0	0	36	0	0	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	52	52	59	55	55	18	18	18
g / C, Green / Cycle	0.70	0.62	0.62	0.70	0.64	0.64	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.01	0.51	0.51	0.11	0.38	0.16	0.14	0.01	0.06
s, saturation flow rate [veh/h]	478	1800	1800	373	3427	1506	1302	1552	1470
c, Capacity [veh/h]	346	1082	1082	266	2155	947	277	343	368
d1, Uniform Delay [s]	6.82	13.88	13.88	14.30	9.45	6.98	32.11	26.13	27.52
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	8.58	8.59	1.23	1.27	0.65	2.78	0.07	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.02	0.85	0.85	0.15	0.61	0.26	0.67	0.06	0.26
d, Delay for Lane Group [s/veh]	6.84	22.47	22.48	15.52	10.72	7.64	34.88	26.20	27.89
Lane Group LOS	A	C	C	B	B	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.03	14.33	14.34	0.27	6.21	1.78	3.79	0.33	1.64
50th-Percentile Queue Length [ft/ln]	0.80	358.32	358.42	6.71	155.26	44.44	94.72	8.19	41.10
95th-Percentile Queue Length [veh/ln]	0.06	20.54	20.55	0.48	10.30	3.20	6.82	0.59	2.96
95th-Percentile Queue Length [ft/ln]	1.43	513.54	513.66	12.07	257.44	79.98	170.50	14.75	73.98

**Movement, Approach, & Intersection Results**

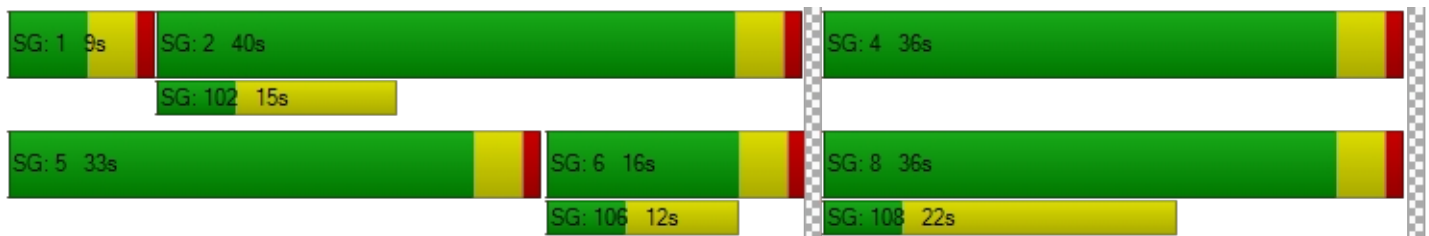
d_M, Delay for Movement [s/veh]	6.84	22.47	22.48	15.52	10.72	7.64	34.88	26.20	26.20	27.89	27.89	27.89
Movement LOS	A	C	C	B	B	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	22.41			10.37			34.04			27.89		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	18.08											
Intersection LOS	B											
Intersection V/C	0.665											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.98	0.00	33.98	33.98
I_p,int, Pedestrian LOS Score for Intersection	2.921	0.000	2.094	1.877
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	282	847	753	753
d_b, Bicycle Delay [s]	31.35	14.12	16.52	16.52
I_b,int, Bicycle LOS Score for Intersection	3.091	2.870	1.898	1.766
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	70.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.887

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	294	1	9	130	59	154	11	19	3	10	22
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	1205	28	156	947	169	432	324	145	29	174	194
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	315	7	41	248	44	113	85	38	8	46	51
Total Analysis Volume [veh/h]	124	1262	29	163	992	177	452	339	152	30	182	203
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	13	33	0	27	45	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	36	36	9	39	39	23	36	36	3	16	16
g / C, Green / Cycle	0.06	0.36	0.36	0.09	0.39	0.39	0.23	0.36	0.36	0.03	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.37	0.37	0.10	0.34	0.34	0.28	0.10	0.10	0.02	0.10	0.13
s, saturation flow rate [veh/h]	1593	1772	1758	1593	1772	1680	1593	3373	1506	1593	1772	1506
c, Capacity [veh/h]	97	638	633	145	691	655	366	1214	542	47	283	240
d1, Uniform Delay [s]	47.02	32.04	32.04	45.53	28.13	28.23	38.56	22.80	22.81	48.07	39.42	40.89
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.41	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	141.75	39.44	40.02	75.62	13.69	14.86	123.32	0.12	0.28	13.53	2.45	7.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.28	1.02	1.02	1.13	0.87	0.87	1.23	0.28	0.28	0.64	0.64	0.85
d, Delay for Lane Group [s/veh]	188.77	71.48	72.06	121.15	41.82	43.09	161.88	22.93	23.09	61.60	41.88	48.83
Lane Group LOS	F	F	F	F	D	D	F	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.22	21.83	21.76	6.60	15.31	14.86	21.36	2.83	2.56	0.91	4.35	5.34
50th-Percentile Queue Length [ft/ln]	155.42	545.73	543.98	164.90	382.83	371.55	534.12	70.72	64.03	22.84	108.73	133.45
95th-Percentile Queue Length [veh/ln]	11.02	29.80	29.75	11.26	21.73	21.18	32.26	5.09	4.61	1.64	7.77	9.13
95th-Percentile Queue Length [ft/ln]	275.42	745.09	743.84	281.57	543.28	529.61	806.55	127.30	115.26	41.12	194.23	228.17

**Movement, Approach, & Intersection Results**

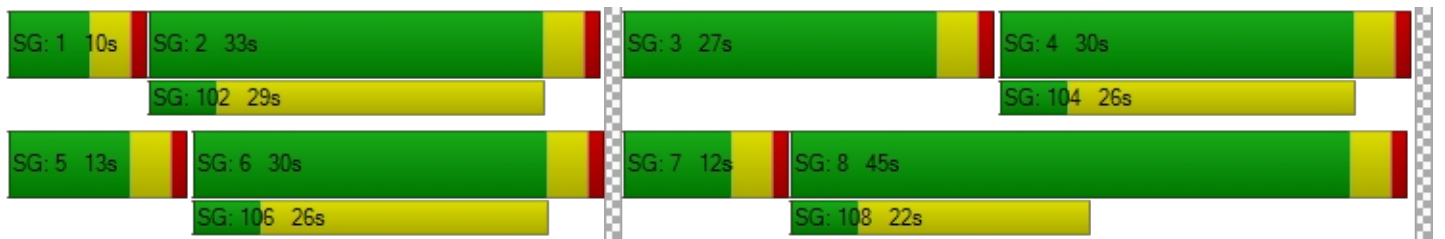
d_M, Delay for Movement [s/veh]	188.77	71.76	72.06	121.15	42.32	43.09	161.88	22.93	23.09	61.60	41.88	48.83
Movement LOS	F	E	E	F	D	D	F	C	C	E	D	D
d_A, Approach Delay [s/veh]	82.02			52.07			89.56			46.70		
Approach LOS	F			D			F			D		
d_I, Intersection Delay [s/veh]	70.46											
Intersection LOS	E											
Intersection V/C	0.887											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.44	41.44	41.44	41.44
I_p,int, Pedestrian LOS Score for Intersection	2.811	2.987	2.799	2.613
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	580	819	520
d_b, Bicycle Delay [s]	27.41	25.24	17.43	27.41
I_b,int, Bicycle LOS Score for Intersection	2.727	2.659	2.338	1.902
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.702

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	110	927	32	76	759	47	75	135	93	26	112	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	48	337	0	0	158	0	0	3	33	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	1283	33	78	932	48	77	141	128	27	115	57
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	353	9	21	257	13	21	39	35	7	32	16
Total Analysis Volume [veh/h]	176	1413	36	86	1026	53	85	155	141	30	127	63
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	18	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	28	28	4	26	26	16	16
g / C, Green / Cycle	0.10	0.47	0.47	0.07	0.43	0.43	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.11	0.41	0.41	0.05	0.31	0.31	0.24	0.13
s, saturation flow rate [veh/h]	1593	1772	1756	1593	1772	1741	1614	1650
c, Capacity [veh/h]	161	823	815	110	766	753	504	509
d1, Uniform Delay [s]	27.04	14.63	14.67	27.55	13.99	14.00	20.95	18.54
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	60.32	13.20	13.60	11.19	5.53	5.63	2.34	0.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.09	0.88	0.89	0.78	0.71	0.71	0.76	0.43
d, Delay for Lane Group [s/veh]	87.36	27.83	28.27	38.73	19.52	19.63	23.28	19.13
Lane Group LOS	F	C	C	D	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.88	10.45	10.50	1.49	6.34	6.26	4.95	2.33
50th-Percentile Queue Length [ft/ln]	122.05	261.16	262.42	37.36	158.54	156.49	123.76	58.22
95th-Percentile Queue Length [veh/ln]	8.76	15.75	15.81	2.69	10.47	10.36	8.60	4.19
95th-Percentile Queue Length [ft/ln]	219.04	393.67	395.25	67.25	261.79	259.06	214.99	104.80

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	87.36	28.04	28.27	38.73	19.57	19.63	23.28	23.28	23.28	19.13	19.13	19.13
Movement LOS	F	C	C	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	34.47			20.99			23.28			19.13		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	27.59											
Intersection LOS	C											
Intersection V/C	0.702											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.874	2.933	2.055	2.019
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	399	666	732	732
d_b, Bicycle Delay [s]	19.24	13.37	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.900	2.521	2.188	1.923
Bicycle LOS	C	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	102.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.053

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	46	239	0	0	127	65	148	23	106	0	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	0	0	0	38	0	0	0
Total Hourly Volume [veh/h]	105	1155	28	103	921	113	188	114	115	46	60	78
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	306	7	27	244	30	50	30	30	12	16	21
Total Analysis Volume [veh/h]	111	1224	30	109	976	120	199	121	122	49	64	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	25	0	9	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	21	21	5	21	21	22	22	22	22
g / C, Green / Cycle	0.08	0.35	0.35	0.08	0.35	0.35	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.07	0.36	0.36	0.07	0.31	0.32	2.63	0.08	0.50	0.06
s, saturation flow rate [veh/h]	1619	1772	1757	1593	1772	1704	122	1530	224	1506
c, Capacity [veh/h]	139	620	615	137	620	597	141	558	167	550
d1, Uniform Delay [s]	27.05	19.61	19.61	27.04	18.61	18.62	24.65	13.22	16.10	12.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.46	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.84	39.91	40.43	9.89	18.51	19.30	591.73	0.19	18.36	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	1.01	1.02	0.79	0.90	0.90	2.27	0.22	0.68	0.15
d, Delay for Lane Group [s/veh]	36.88	59.52	60.04	36.93	37.11	37.93	616.38	13.41	34.46	13.00
Lane Group LOS	D	F	F	D	D	D	F	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.86	14.48	14.45	1.83	9.69	9.47	25.16	1.05	1.78	0.70
50th-Percentile Queue Length [ft/ln]	46.50	362.09	361.27	45.73	242.17	236.79	629.08	26.32	44.59	17.42
95th-Percentile Queue Length [veh/ln]	3.35	20.93	20.91	3.29	14.79	14.52	44.62	1.90	3.21	1.25
95th-Percentile Queue Length [ft/ln]	83.70	523.19	522.65	82.31	369.78	362.97	1115.51	47.38	80.26	31.36

**Movement, Approach, & Intersection Results**

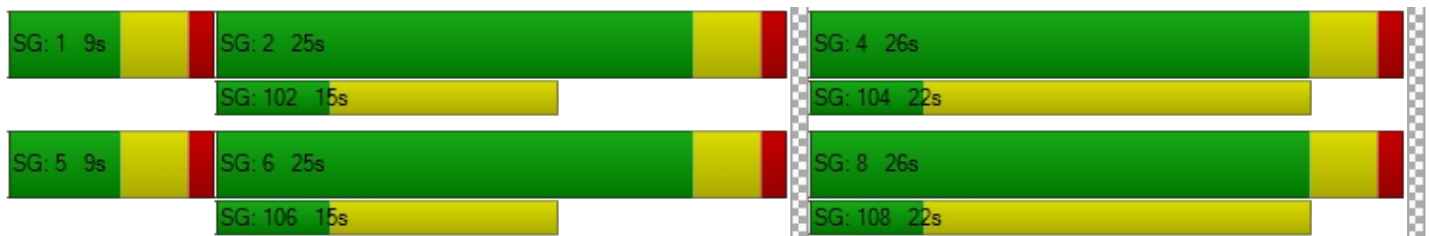
d_M, Delay for Movement [s/veh]	36.88	59.77	60.04	36.93	37.46	37.93	616.38	616.38	13.41	34.46	34.46	13.00
Movement LOS	D	E	E	D	D	D	F	F	B	C	C	B
d_A, Approach Delay [s/veh]	57.91			37.46			449.95			25.37		
Approach LOS	E			D			F			C		
d_I, Intersection Delay [s/veh]	102.26											
Intersection LOS	F											
Intersection V/C	3.053											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.76	21.76	21.76	21.76
I_p,int, Pedestrian LOS Score for Intersection	2.864	3.092	2.227	2.072
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	698	698	731	731
d_b, Bicycle Delay [s]	12.75	12.75	12.10	12.10
I_b,int, Bicycle LOS Score for Intersection	2.694	2.554	2.352	1.883
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.479

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	51	941	9	39	767	27	63	23	33	18	21	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	284	0	0	231	2	1	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	8	0	0	9	0	0	4
Total Hourly Volume [veh/h]	52	1244	7	40	1013	22	65	23	25	18	21	11
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	338	2	11	275	6	18	6	7	5	6	3
Total Analysis Volume [veh/h]	56	1351	8	43	1100	24	71	25	27	20	23	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	40	3	39	39	6	6
g / C, Green / Cycle	0.05	0.66	0.66	0.04	0.65	0.65	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.38	0.38	0.03	0.31	0.31	0.07	0.03
s, saturation flow rate [veh/h]	1619	1800	1796	1619	1800	1786	1648	1753
c, Capacity [veh/h]	84	1190	1187	71	1176	1167	252	249
d1, Uniform Delay [s]	27.98	5.55	5.55	28.22	5.26	5.26	26.45	25.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.87	2.00	2.00	8.09	1.40	1.41	1.47	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.67	0.57	0.57	0.61	0.48	0.48	0.49	0.22
d, Delay for Lane Group [s/veh]	36.85	7.54	7.55	36.31	6.67	6.68	27.92	25.83
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.96	3.66	3.65	0.74	2.82	2.80	1.72	0.72
50th-Percentile Queue Length [ft/ln]	23.92	91.42	91.33	18.42	70.47	70.06	42.99	18.12
95th-Percentile Queue Length [veh/ln]	1.72	6.58	6.58	1.33	5.07	5.04	3.10	1.30
95th-Percentile Queue Length [ft/ln]	43.06	164.56	164.40	33.16	126.85	126.11	77.38	32.62



**Movement, Approach, & Intersection Results**

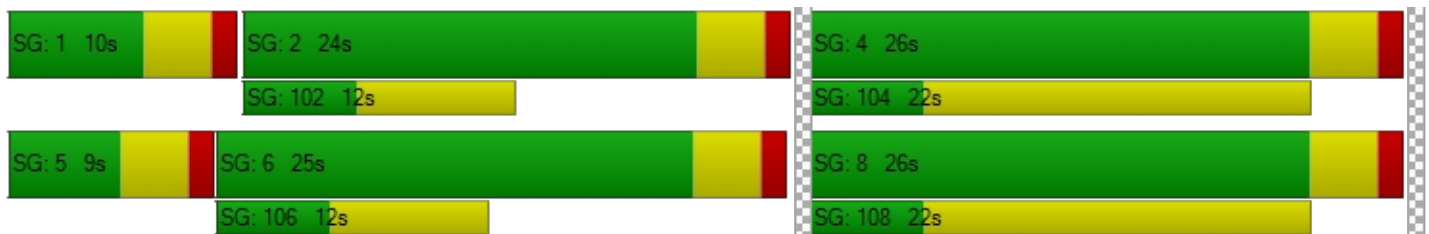
d_M, Delay for Movement [s/veh]	36.85	7.55	7.55	36.31	6.67	6.68	27.92	27.92	27.92	25.83	25.83	25.83
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.71			7.76			27.92			25.83		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.51											
Intersection LOS	A											
Intersection V/C	0.479											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.814			2.902			1.827			1.768		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			666			733			733		
d_b, Bicycle Delay [s]	12.69			13.35			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.729			2.529			1.777			1.657		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	26.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	105	845	14	52	766	14	45	21	284	29	10	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	283	2	2	225	4	1	0	50	2	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	0	0	0	0	0	0	5
Total Hourly Volume [veh/h]	152	1145	12	55	1006	18	47	21	340	32	10	13
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	309	3	15	271	5	13	6	92	9	3	4
Total Analysis Volume [veh/h]	164	1235	13	59	1085	19	51	23	367	35	11	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	29	0	10	28	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	29	29	3	25	25	21	21
g / C, Green / Cycle	0.11	0.45	0.45	0.05	0.39	0.39	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.10	0.35	0.35	0.04	0.31	0.31	0.29	0.08
s, saturation flow rate [veh/h]	1593	1800	1793	1619	1800	1789	1517	722
c, Capacity [veh/h]	173	805	802	85	703	699	542	316
d1, Uniform Delay [s]	28.84	15.26	15.27	30.36	17.48	17.48	21.38	15.79
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.18	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.00	7.26	7.31	9.83	8.71	8.77	4.94	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.95	0.78	0.78	0.70	0.79	0.79	0.81	0.19
d, Delay for Lane Group [s/veh]	49.84	22.52	22.57	40.18	26.19	26.25	26.32	16.08
Lane Group LOS	D	C	C	D	C	C	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.43	8.41	8.39	1.10	8.19	8.15	6.63	0.62
50th-Percentile Queue Length [ft/ln]	85.78	210.18	209.86	27.61	204.72	203.81	165.69	15.38
95th-Percentile Queue Length [veh/ln]	6.18	13.16	13.15	1.99	12.88	12.83	10.85	1.11
95th-Percentile Queue Length [ft/ln]	154.40	329.05	328.65	49.70	322.04	320.87	271.24	27.68

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.84	22.55	22.57	40.18	26.22	26.25	26.32	26.32	26.32	16.08	16.08	16.08
Movement LOS	D	C	C	D	C	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	25.72			26.93			26.32			16.08		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	26.07											
Intersection LOS	C											
Intersection V/C	0.701											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.16	24.16	24.16	24.16
I_p,int, Pedestrian LOS Score for Intersection	2.906	2.839	2.009	1.787
Crosswalk LOS	C	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	768	738	676	676
d_b, Bicycle Delay [s]	12.34	12.96	14.26	14.26
I_b,int, Bicycle LOS Score for Intersection	2.728	2.519	2.287	1.667
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	56.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.975

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	822	124	153	826	9	13	7	5	219	9	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	132	64	86	191	0	0	0	0	182	0	197
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	48	0	0	2	0	0	1	0	0	96
Total Hourly Volume [veh/h]	9	970	142	242	1034	7	13	7	4	405	9	286
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	271	40	68	289	2	4	2	1	113	3	80
Total Analysis Volume [veh/h]	10	1084	159	270	1155	8	15	8	4	453	10	320
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	44	0	15	39	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	40	40	11	50	50	22	22	22
g / C, Green / Cycle	0.01	0.47	0.47	0.13	0.59	0.59	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.01	0.35	0.35	0.17	0.32	0.32	0.21	0.45	0.21
s, saturation flow rate [veh/h]	1619	1800	1721	1619	1800	1796	128	1018	1530
c, Capacity [veh/h]	22	846	808	211	1055	1053	99	347	396
d1, Uniform Delay [s]	41.63	18.47	18.50	37.00	10.76	10.77	26.17	34.18	29.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.16	0.50	0.15
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.51	6.07	6.42	134.37	2.08	2.08	2.11	168.09	5.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.75	0.75	1.28	0.55	0.55	0.27	1.33	0.81
d, Delay for Lane Group [s/veh]	55.14	24.53	24.92	171.36	12.84	12.85	28.29	202.28	34.98
Lane Group LOS	E	C	C	F	B	B	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.29	10.86	10.51	12.15	6.52	6.51	0.46	23.43	6.52
50th-Percentile Queue Length [ft/ln]	7.23	271.47	262.76	303.72	163.03	162.81	11.48	585.74	162.89
95th-Percentile Queue Length [veh/ln]	0.52	16.26	15.83	19.66	10.71	10.70	0.83	36.29	10.70
95th-Percentile Queue Length [ft/ln]	13.01	406.58	395.68	491.60	267.73	267.44	20.66	907.26	267.55

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	55.14	24.69	24.92	171.36	12.85	12.85	28.29	28.29	28.29	202.28	202.28	34.98
Movement LOS	E	C	C	F	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	24.97			42.71			28.29			133.91		
Approach LOS	C			D			C			F		
d_I, Intersection Delay [s/veh]	56.67											
Intersection LOS	E											
Intersection V/C	0.975											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	33.99	33.99	33.99
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.898	1.743	2.519
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	823	517	517
d_b, Bicycle Delay [s]	11.92	14.72	23.36	23.36
I_b,int, Bicycle LOS Score for Intersection	2.633	2.743	1.606	3.010
Bicycle LOS	B	B	A	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	98.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.038

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	128	31	213	160	0	0	0	0	70	0	68
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	6	0	0	0	0	0	151
Total Hourly Volume [veh/h]	16	473	435	758	637	17	30	51	15	304	86	453
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	130	120	209	175	5	8	14	4	84	24	125
Total Analysis Volume [veh/h]	18	521	479	835	702	19	33	56	17	335	95	499
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	135
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	70	39	0	55	24	0	0	9	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	135	135	135	135	135	135	135	135	135
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	35	35	51	84	84	5	5	28
g / C, Green / Cycle	0.02	0.26	0.26	0.38	0.62	0.62	0.04	0.04	0.21
(v / s)_i Volume / Saturation Flow Rate	0.01	0.15	0.30	0.46	0.20	0.01	0.02	0.04	0.24
s, saturation flow rate [veh/h]	1781	3560	1589	1810	3560	1615	1810	1825	1829
c, Capacity [veh/h]	33	927	414	681	2203	999	67	68	379
d1, Uniform Delay [s]	65.71	43.25	49.92	42.08	12.23	9.94	63.75	65.00	53.50
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.49
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.60	2.46	94.70	114.16	0.38	0.03	5.48	73.50	87.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.55	0.56	1.16	1.23	0.32	0.02	0.49	1.08	1.13
d, Delay for Lane Group [s/veh]	79.31	45.71	144.62	156.24	12.61	9.97	69.23	138.50	140.95
Lane Group LOS	E	D	F	F	B	A	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.74	7.91	24.81	43.99	5.11	0.23	1.22	3.72	22.06
50th-Percentile Queue Length [ft/ln]	18.52	197.66	620.16	1099.66	127.67	5.73	30.47	92.90	551.47
95th-Percentile Queue Length [veh/ln]	1.33	12.52	35.87	62.68	8.81	0.41	2.19	6.69	31.84
95th-Percentile Queue Length [ft/ln]	33.33	312.95	896.85	1566.96	220.32	10.31	54.85	167.22	796.03

**Movement, Approach, & Intersection Results**

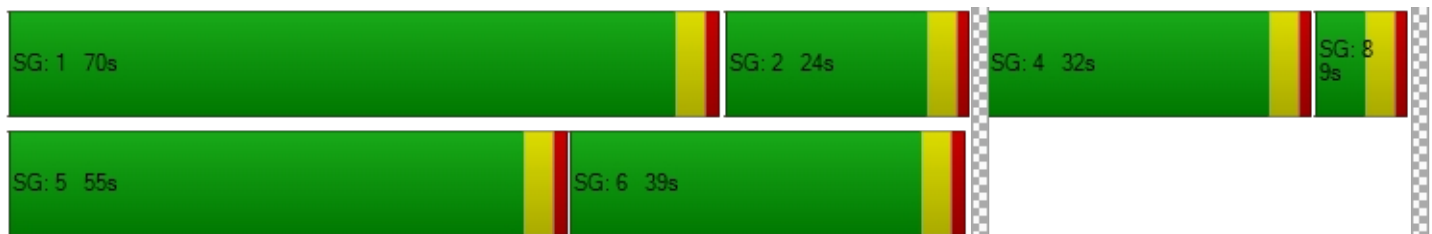
d_M, Delay for Movement [s/veh]	79.31	45.71	144.62	156.24	12.61	9.97	69.23	138.50	138.50	140.95	140.95	0.00
Movement LOS	E	D	F	F	B	A	E	F	F	F	F	
d_A, Approach Delay [s/veh]	92.85			89.65			116.93			140.95		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	98.72											
Intersection LOS	F											
Intersection V/C	1.038											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	519			296			74			415		
d_b, Bicycle Delay [s]	37.04			48.98			62.59			42.40		
I_b,int, Bicycle LOS Score for Intersection	2.399			2.848			1.735			2.269		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	37.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	14	7	181	11	293	339	499	9	8	556	266
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	177	0	71	40	205	0	0	67	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	2	0	0	0
Total Hourly Volume [veh/h]	13	14	7	362	11	370	386	714	7	8	634	341
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	2	96	3	98	103	190	2	2	168	91
Total Analysis Volume [veh/h]	14	15	7	385	12	393	410	759	7	9	674	362
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	24	35	0	10	21	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	26	26	19	36	36	1	18	18
g / C, Green / Cycle	0.35	0.35	0.35	0.25	0.48	0.48	0.01	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.17	0.52	0.25	0.23	0.21	0.00	0.01	0.19	0.23
s, saturation flow rate [veh/h]	218	763	1589	1781	3560	1615	1781	3560	1589
c, Capacity [veh/h]	143	361	555	450	1707	774	21	849	379
d1, Uniform Delay [s]	19.76	27.87	21.13	27.22	12.92	10.21	36.82	26.83	28.17
k, delay calibration	0.50	0.50	0.50	0.14	0.11	0.11	0.11	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.20	77.18	7.47	9.28	0.18	0.00	13.17	1.73	15.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.25	1.10	0.71	0.91	0.44	0.01	0.43	0.79	0.95
d, Delay for Lane Group [s/veh]	23.97	105.05	28.60	36.50	13.10	10.22	49.99	28.56	43.53
Lane Group LOS	C	F	C	D	B	B	D	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.56	14.21	6.74	7.92	3.87	0.06	0.24	5.59	7.69
50th-Percentile Queue Length [ft/ln]	13.99	355.30	168.47	197.97	96.83	1.42	5.93	139.79	192.36
95th-Percentile Queue Length [veh/ln]	1.01	21.63	11.00	12.53	6.97	0.10	0.43	9.47	12.24
95th-Percentile Queue Length [ft/ln]	25.19	540.68	274.90	313.35	174.29	2.56	10.67	236.74	306.08

**Movement, Approach, & Intersection Results**

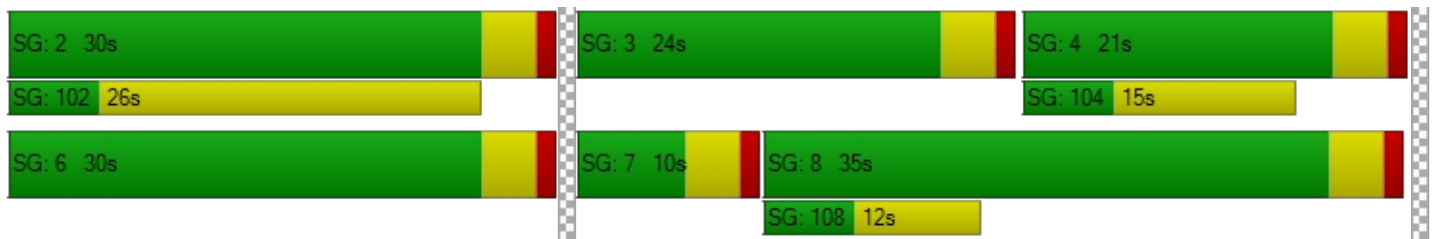
d_M, Delay for Movement [s/veh]	23.97	23.97	23.97	105.05	105.05	28.60	36.50	13.10	10.22	49.99	28.56	43.53
Movement LOS	C	C	C	F	F	C	D	B	B	D	C	D
d_A, Approach Delay [s/veh]	23.97			67.02			21.24			33.93		
Approach LOS	C			E			C			C		
d_I, Intersection Delay [s/veh]	37.49											
Intersection LOS	D											
Intersection V/C	0.978											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.05	29.05	29.05	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.739	2.445	2.835	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	827	453
d_b, Bicycle Delay [s]	16.01	16.01	12.91	22.43
I_b,int, Bicycle LOS Score for Intersection	1.619	2.863	2.531	2.422
Bicycle LOS	A	C	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	72.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	134	0	0	367	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	0	0	0	67	0	0	0
Total Hourly Volume [veh/h]	84	935	63	9	1072	4	7	47	199	288	70	53
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	236	16	2	271	1	2	12	50	73	18	13
Total Analysis Volume [veh/h]	85	945	64	9	1084	4	7	48	201	291	71	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	77	0	9	73	0	0	23	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	79	79	2	72	72	19	19	24	24
g / C, Green / Cycle	0.06	0.56	0.56	0.01	0.51	0.51	0.14	0.14	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.51	0.04	0.01	0.58	0.00	0.03	0.12	0.16	0.07
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1888	1615	1810	1765
c, Capacity [veh/h]	107	1050	907	20	961	817	261	223	316	309
d1, Uniform Delay [s]	65.04	27.20	14.01	68.76	34.02	16.57	53.57	59.40	56.79	51.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.14	0.27	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.61	12.14	0.15	14.63	70.90	0.01	0.40	15.68	21.81	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.90	0.07	0.45	1.13	0.00	0.21	0.90	0.92	0.41
d, Delay for Lane Group [s/veh]	77.66	39.33	14.16	83.39	104.92	16.58	53.97	75.08	78.60	52.15
Lane Group LOS	E	D	B	F	F	B	D	E	E	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.38	30.57	0.98	0.40	50.59	0.07	1.76	8.00	12.04	4.00
50th-Percentile Queue Length [ft/ln]	84.52	764.26	24.52	10.10	1264.66	1.67	44.11	200.09	301.08	100.05
95th-Percentile Queue Length [veh/ln]	6.09	39.64	1.77	0.73	68.44	0.12	3.18	12.64	17.73	7.20
95th-Percentile Queue Length [ft/ln]	152.14	990.95	44.14	18.17	1710.98	3.00	79.40	316.09	443.36	180.09

**Movement, Approach, & Intersection Results**

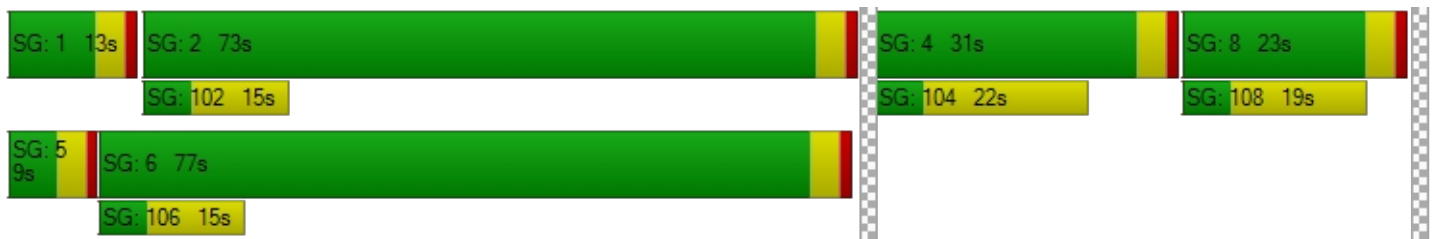
d_M, Delay for Movement [s/veh]	77.66	39.33	14.16	83.39	104.92	16.58	53.97	53.97	75.08	78.60	52.15	52.15
Movement LOS	E	D	B	F	F	B	D	D	E	E	D	D
d_A, Approach Delay [s/veh]	40.84			104.42			70.54			70.65		
Approach LOS	D			F			E			E		
d_I, Intersection Delay [s/veh]	72.19											
Intersection LOS	E											
Intersection V/C	0.912											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	61.29	61.29
l_p,int, Pedestrian LOS Score for Intersection	2.856	2.732	2.215	2.144
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1043	986	271	386
d_b, Bicycle Delay [s]	16.03	18.00	52.29	45.60
l_b,int, Bicycle LOS Score for Intersection	3.399	3.370	2.093	2.246
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	21	771	203	97	1043	0	0	12	69	193	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	153	0	11	357	0	0	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	0	0	0	18	0	0	13
Total Hourly Volume [veh/h]	21	939	155	110	1421	0	0	12	52	197	5	38
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	242	40	28	367	0	0	3	13	51	1	10
Total Analysis Volume [veh/h]	22	969	160	114	1466	0	0	12	54	203	5	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	23	23	12	25	0	0	9	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	38	38	6	42	42	4	4	6	6	6
g / C, Green / Cycle	0.03	0.55	0.55	0.08	0.60	0.60	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.27	0.10	0.06	0.39	0.39	0.01	0.03	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	49	1967	878	151	1140	1140	101	86	167	167	149
d1, Uniform Delay [s]	33.68	9.99	8.12	31.51	9.15	9.15	31.68	32.57	30.72	30.72	29.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.46	0.89	0.46	7.53	2.79	2.79	0.52	7.28	3.79	3.77	0.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.49	0.18	0.76	0.64	0.64	0.12	0.63	0.62	0.62	0.26
d, Delay for Lane Group [s/veh]	40.14	10.88	8.58	39.04	11.94	11.94	32.20	39.85	34.51	34.49	30.60
Lane Group LOS	D	B	A	D	B	B	C	D	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.45	4.19	1.17	2.14	6.69	6.69	0.20	1.04	1.81	1.81	0.63
50th-Percentile Queue Length [ft/ln]	11.14	104.65	29.24	53.49	167.25	167.25	5.06	26.10	45.22	45.29	15.76
95th-Percentile Queue Length [veh/ln]	0.80	7.53	2.11	3.85	10.93	10.93	0.36	1.88	3.26	3.26	1.14
95th-Percentile Queue Length [ft/ln]	20.05	188.37	52.64	96.28	273.29	273.29	9.12	46.99	81.40	81.52	28.38

**Movement, Approach, & Intersection Results**

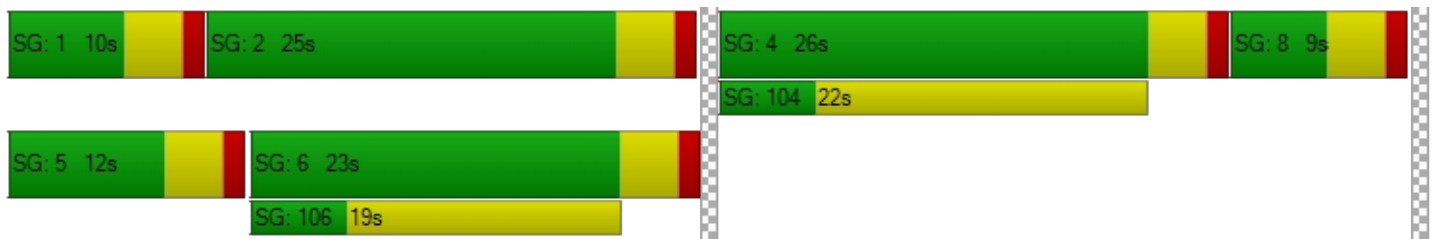
d_M, Delay for Movement [s/veh]	40.14	10.88	8.58	39.04	11.94	11.94	32.20	32.20	39.85	34.50	34.49	30.60
Movement LOS	D	B	A	D	B	B	C	C	D	C	C	C
d_A, Approach Delay [s/veh]	11.12			13.90			38.46			33.89		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	15.00											
Intersection LOS	B											
Intersection V/C	0.489											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.796			0.000			2.284		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	542			599			143			627		
d_b, Bicycle Delay [s]	18.64			17.21			30.24			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.552			2.863			1.698			1.989		
Bicycle LOS	B			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	202	284	0	0	1131	170	0	0	0	71	0	708
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	40	0	0	350	6	0	0	0	0	0	113
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	45	0	0	0	0	0	209
Total Hourly Volume [veh/h]	206	330	0	0	1504	134	0	0	0	72	0	626
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	1.0000	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	85	0	0	389	35	0	0	0	19	0	162
Total Analysis Volume [veh/h]	213	341	0	0	1555	139	0	0	0	74	0	647
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	9	48	36		4
g / C, Green / Cycle	0.14	0.81	0.60		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.09	0.43		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	263	2915	2149		111
d1, Uniform Delay [s]	24.90	1.25	8.70		27.65
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.89	0.08	2.16		6.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.81	0.12	0.72		0.67
d, Delay for Lane Group [s/veh]	30.79	1.33	10.85		34.43
Lane Group LOS	C	A	B		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	3.18	0.10	5.91		1.20
50th-Percentile Queue Length [ft/ln]	79.52	2.44	147.82		29.91
95th-Percentile Queue Length [veh/ln]	5.73	0.18	9.90		2.15
95th-Percentile Queue Length [ft/ln]	143.14	4.39	247.52		53.83

**Movement, Approach, & Intersection Results**

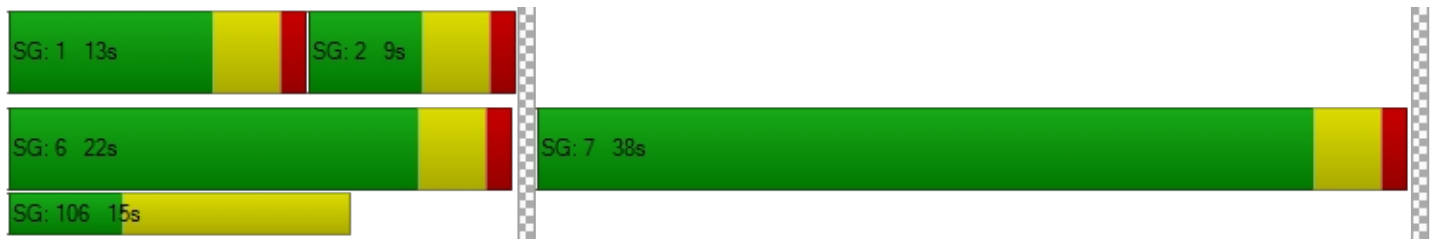
d_M, Delay for Movement [s/veh]	30.79	1.33	0.00	0.00	10.85	0.00	0.00	0.00	0.00	0.00	34.43	0.00	0.00
Movement LOS	C	A			B						C		
d_A, Approach Delay [s/veh]	12.66				10.85				0.00		34.43		
Approach LOS	B				B				A		C		
d_I, Intersection Delay [s/veh]	12.11												
Intersection LOS	B												
Intersection V/C	0.588												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.945	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	2.017		2.842		4.132		1.560	
Bicycle LOS	B		C		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	43.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.843

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↔			↔↑↑			↔↔↔					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	456	63	512	574	0	120	0	752	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	33	0	280	71	0	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	0	0	0	192	0	0	0
Total Hourly Volume [veh/h]	0	498	48	802	656	0	129	0	575	0	0	0
Peak Hour Factor	1.0000	0.9280	0.9280	0.9280	0.9280	1.0000	0.9280	1.0000	0.9280	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	134	13	216	177	0	35	0	155	0	0	0
Total Analysis Volume [veh/h]	0	537	52	864	707	0	139	0	620	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	18	0	39	57	0	23	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	80	80	80	80	80	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	14	35	53	19	19	
g / C, Green / Cycle	0.18	0.44	0.66	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.15	0.48	0.20	0.08	0.22	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	637	790	2398	429	678	
d1, Uniform Delay [s]	31.92	22.55	5.66	25.23	29.74	
k, delay calibration	0.50	0.50	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	12.85	60.48	0.31	0.43	5.34	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.84	1.09	0.29	0.32	0.91	
d, Delay for Lane Group [s/veh]	44.77	83.03	5.97	25.66	35.09	
Lane Group LOS	D	F	A	C	D	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.00	26.79	2.13	2.17	6.08	
50th-Percentile Queue Length [ft/ln]	150.12	669.76	53.24	54.29	151.92	
95th-Percentile Queue Length [veh/ln]	10.02	37.62	3.83	3.91	10.12	
95th-Percentile Queue Length [ft/ln]	250.59	940.56	95.83	97.71	252.99	



**Movement, Approach, & Intersection Results**

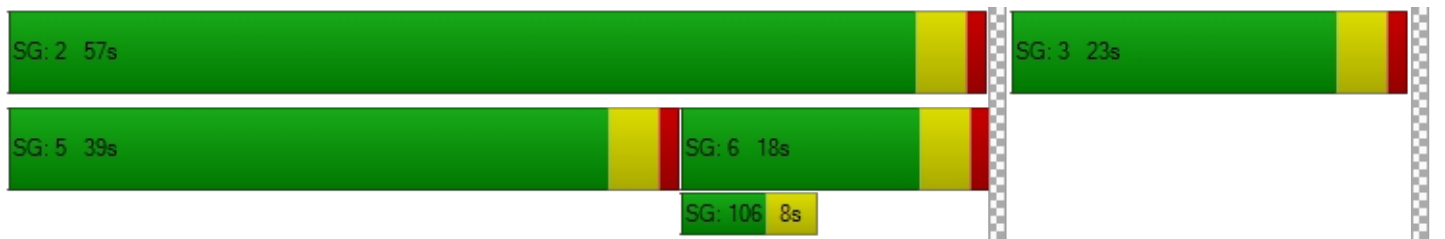
d_M, Delay for Movement [s/veh]	0.00	44.77	0.00	83.03	5.97	0.00	25.66	0.00	35.09	0.00	0.00	0.00
Movement LOS		D		F	A		C		D			
d_A, Approach Delay [s/veh]	44.77			48.35			33.36			0.00		
Approach LOS	D			D			C			A		
d_I, Intersection Delay [s/veh]	43.71											
Intersection LOS	D											
Intersection V/C	0.843											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	31.53
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.261
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	350	1324	475	0
d_b, Bicycle Delay [s]	27.25	4.57	23.28	40.02
I_b,int, Bicycle LOS Score for Intersection	2.003	2.856	1.560	4.132
Bicycle LOS	B	C	A	D

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 4 OY PM

Report File: C:\...\OY PM.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	565	1244	626	604	983	900	996	565	505	617	7605

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	171	1345	190	726	1161	141	326	548	83	191	339	825	6046

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1663	13	49	1398	9	52	3184

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	166	1360	44	108	1169	107	180	159	126	101	135	105	3760

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	1	9	6	26	7	9	11	410	6	9	384	17	895

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	132	348	67	17	251	10	8	262	175	40	240	30	1580

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	465	434	60	368	161	47	1535

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	11	8	11	24	16	24	24	299	13	13	293	32	768

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	13	8	10	491	215	9	746

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	13	32	10	39	51	15	30	461	20	8	214	53	946

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	542	1469	1229	650	417	5	577	4889

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1484	524	405	1211	594	2	334	4554

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	7	1806	2	40	1275	238	181	4	16	1	2	120	3692

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	118	1205	28	156	947	169	432	324	145	29	174	194	3921

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	160	1283	33	78	932	48	77	141	128	27	115	57	3079

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	105	1155	38	103	921	113	188	114	153	46	60	78	3074

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	52	1244	9	40	1013	30	65	23	34	18	21	15	2564

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	152	1145	16	55	1006	18	47	21	340	32	10	18	2860

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	970	190	242	1034	9	13	7	5	405	9	382	3275

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	16	473	435	758	637	23	30	51	15	304	86	604	3432

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	14	7	362	11	370	386	714	9	8	634	341	2869

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	84	935	84	9	1072	4	7	47	266	288	70	53	2919

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	21	939	207	110	1421	0	0	12	70	197	5	51	3033

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	206	330	1504	179	72	835	3126

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	498	64	802	656	129	767	2916

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## Bloomington Business Park Specific Plan

Vistro File: Z:\...\Bloomington Alt.vistro

Scenario 5 2040 AM

Report File: Z:\...\2040 AM.pdf

12/8/2020

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Left	0.776	41.8	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	SB Left	0.556	35.5	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.364	4.8	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.423	19.5	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.576	11.6	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.988	45.4	E
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.089	15.0	C
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	SB Left	0.108	17.9	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.058	10.9	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.246	8.5	A
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	SB Right	0.959	47.4	D
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.918	55.4	E
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.511	8.9	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.719	38.1	D
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.459	13.3	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	WB Left	2.061	52.0	D
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.452	9.3	A
			HCM 6th				



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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.584	13.9	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.752	24.5	C
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	EB Thru	0.841	52.8	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.702	25.8	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.567	18.1	B
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.387	11.4	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.451	11.1	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.669	22.9	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	41.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.776

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.0	100.00	1500.0	1200.0	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.0	0.00	0.00	1150.0
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	633	801	489	972	728	1222	1074	0	571	413	0	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	122	0	0	306	0	0	143	0	0	177
Total Hourly Volume [veh/h]	633	801	367	972	728	916	1074	0	428	413	0	530
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	167	211	97	256	192	241	283	0	113	109	0	139
Total Analysis Volume [veh/h]	666	843	386	1023	766	964	1131	0	451	435	0	558
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		2			3			3			1	
v_ci, Inbound Pedestrian Volume crossing minor street		1			3			3			2	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	32	0	40	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	31	36	41	41	41
g / C, Green / Cycle	0.21	0.26	0.30	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.16	0.29	0.15	0.32	0.12
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	752	1334	1053	1778	1203	1203
d1, Uniform Delay [s]	45.70	39.45	41.46	30.31	38.21	29.57
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.75	2.29	7.78	0.76	4.35	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.89	0.63	0.97	0.43	0.94	0.36
d, Delay for Lane Group [s/veh]	49.45	41.74	49.24	31.08	42.55	29.75
Lane Group LOS	D	D	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	9.78	7.47	15.72	5.75	15.25	4.35
50th-Percentile Queue Length [ft/ln]	244.43	186.71	393.08	143.83	381.21	108.83
95th-Percentile Queue Length [veh/ln]	14.91	11.95	22.23	9.69	21.65	7.78
95th-Percentile Queue Length [ft/ln]	372.63	298.75	555.66	242.18	541.31	194.38

**Movement, Approach, & Intersection Results**

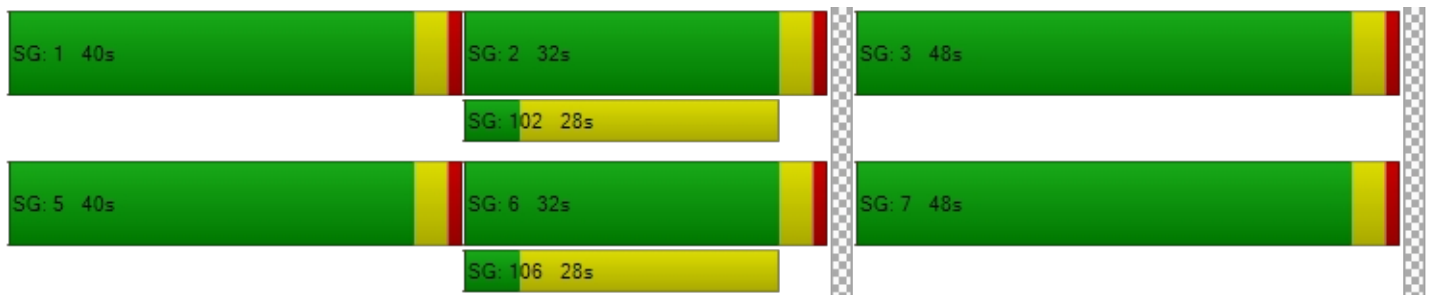
d_M, Delay for Movement [s/veh]	49.45	41.74	0.00	49.24	31.08	0.00	42.55	0.00	0.00	29.75	0.00	0.00
Movement LOS	D	D		D	C		D			C		
d_A, Approach Delay [s/veh]	45.14			41.46			42.55			29.75		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	41.81											
Intersection LOS	D											
Intersection V/C	0.776											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			51.34			51.34		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.101			2.981		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	467			467			733			733		
d_b, Bicycle Delay [s]	35.27			35.27			24.07			24.07		
I_b,int, Bicycle LOS Score for Intersection	2.390			2.544			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.556

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	280	1249	88	550	954	307	309	271	101	49	348	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	77	0	0	25	0	0	88
Total Hourly Volume [veh/h]	280	1249	66	550	954	230	309	271	76	49	348	262
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	329	17	145	251	61	81	71	20	13	92	69
Total Analysis Volume [veh/h]	295	1315	69	579	1004	242	325	285	80	52	366	276
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	28	40	0	24	36	0	16	46	0	10	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	13	57	57	20	64	64	12	23	23	4	15	39
g / C, Green / Cycle	0.10	0.47	0.47	0.17	0.54	0.54	0.10	0.19	0.19	0.03	0.13	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.20	0.20	0.16	0.23	0.23	0.09	0.08	0.05	0.01	0.10	0.10
s, saturation flow rate [veh/h]	3514	5176	1838	3514	3618	1718	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	367	2444	868	587	1934	918	353	696	311	124	460	936
d1, Uniform Delay [s]	52.55	20.83	20.83	49.88	16.95	16.98	53.52	42.50	41.19	56.72	50.90	30.07
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.12	0.53	1.48	14.52	0.72	1.52	9.92	0.39	0.43	2.27	3.20	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.42	0.42	0.99	0.44	0.44	0.92	0.41	0.26	0.42	0.80	0.30
d, Delay for Lane Group [s/veh]	56.67	21.36	22.31	64.40	17.67	18.51	63.44	42.89	41.63	58.99	54.09	30.25
Lane Group LOS	E	C	C	E	B	B	E	D	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.41	5.96	6.59	9.65	6.88	6.79	5.22	3.65	2.00	0.79	5.36	2.87
50th-Percentile Queue Length [ft/ln]	110.21	149.12	164.76	241.37	171.90	169.64	130.50	91.28	50.10	19.70	133.98	71.77
95th-Percentile Queue Length [veh/ln]	7.85	9.97	10.80	14.75	11.18	11.06	8.97	6.57	3.61	1.42	9.16	5.17
95th-Percentile Queue Length [ft/ln]	196.29	249.25	270.02	368.77	279.41	276.44	224.17	164.31	90.17	35.47	228.89	129.19

**Movement, Approach, & Intersection Results**

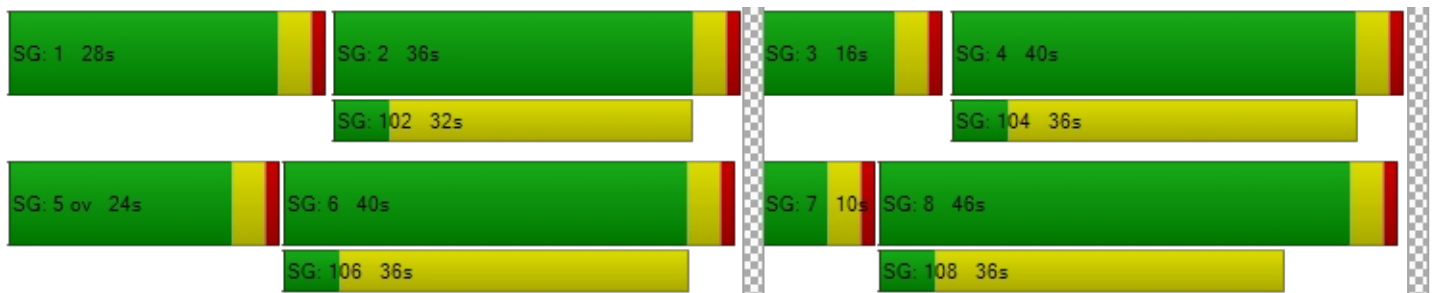
d_M, Delay for Movement [s/veh]	56.67	21.57	22.31	64.40	17.80	18.51	63.44	42.89	41.63	58.99	54.09	30.25
Movement LOS	E	C	C	E	B	B	E	D	D	E	D	C
d_A, Approach Delay [s/veh]	27.77			32.68			52.42			44.98		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.53											
Intersection LOS	D											
Intersection V/C	0.556											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.34	51.34	51.34	51.34
I_p,int, Pedestrian LOS Score for Intersection	3.412	3.538	3.086	3.303
Crosswalk LOS	C	D	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	533	700	600
d_b, Bicycle Delay [s]	29.40	32.27	25.35	29.40
I_b,int, Bicycle LOS Score for Intersection	2.261	2.606	2.149	2.205
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.364

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑↑↱		↱↱↑↑↑		↱↱	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1525	23	79	983	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1525	17	79	983	10	47
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	401	4	21	259	3	12
Total Analysis Volume [veh/h]	1605	18	83	1035	11	49
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0		0	
v_di, Inbound Pedestrian Volume crossing major street	0		0		0	
v_co, Outbound Pedestrian Volume crossing minor street	0		0		0	
v_ci, Inbound Pedestrian Volume crossing minor street	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	24	0	9	33	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	50	50	4	59	4	4
g / C, Green / Cycle	0.72	0.72	0.06	0.84	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.31	0.01	0.02	0.20	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3722	1161	207	4322	92	82
d1, Uniform Delay [s]	4.01	2.80	31.81	1.19	31.78	32.57
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.02	1.26	0.13	0.57	6.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.02	0.40	0.24	0.12	0.60
d, Delay for Lane Group [s/veh]	4.37	2.82	33.07	1.32	32.35	39.31
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.40	0.04	0.69	0.19	0.19	0.94
50th-Percentile Queue Length [ft/ln]	35.03	0.95	17.32	4.68	4.68	23.56
95th-Percentile Queue Length [veh/ln]	2.52	0.07	1.25	0.34	0.34	1.70
95th-Percentile Queue Length [ft/ln]	63.06	1.70	31.17	8.42	8.43	42.40

**Movement, Approach, & Intersection Results**

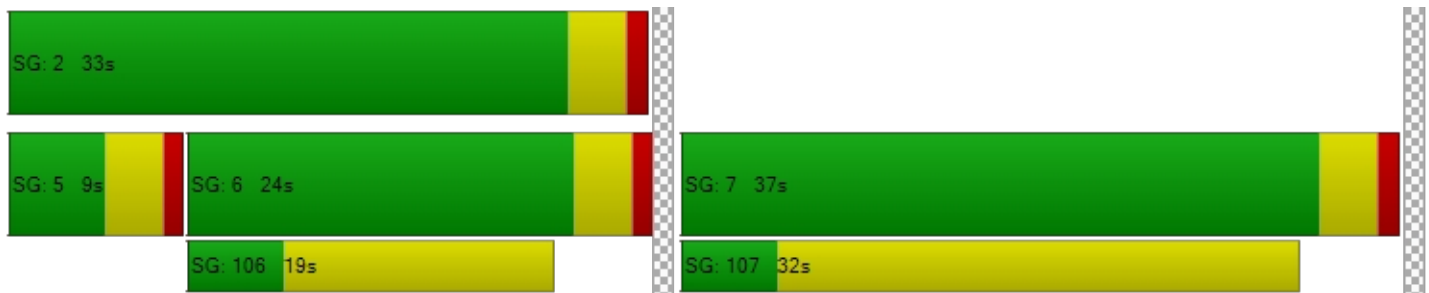
d_M, Delay for Movement [s/veh]	4.37	2.82	33.07	1.32	32.35	39.31
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	4.36		3.68		38.03	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.81					
Intersection LOS	A					
Intersection V/C	0.364					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	26.58
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.054	2.187
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	829	943
d_b, Bicycle Delay [s]	17.86	12.01	9.78
I_b,int, Bicycle LOS Score for Intersection	2.456	2.175	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	19.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.423

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1256	64	58	854	65	148	101	75	86	103	132
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	16	0	0	19	0	0	33
Total Hourly Volume [veh/h]	134	1256	48	58	854	49	148	101	56	86	103	99
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	331	13	15	225	13	39	27	15	23	27	26
Total Analysis Volume [veh/h]	141	1322	51	61	899	52	156	106	59	91	108	104
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	53	53	4	52	52	9	11	11	6	8	8
g / C, Green / Cycle	0.06	0.59	0.59	0.04	0.58	0.58	0.10	0.13	0.13	0.07	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.03	0.02	0.17	0.17	0.09	0.03	0.04	0.05	0.03	0.06
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1847	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	3035	947	157	2079	1062	182	454	203	119	328	146
d1, Uniform Delay [s]	41.81	10.36	7.96	41.87	9.87	9.88	39.91	35.52	35.79	41.43	38.43	39.85
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	0.46	0.11	1.56	0.38	0.74	10.87	0.26	0.79	9.68	0.58	6.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.44	0.05	0.39	0.30	0.30	0.86	0.23	0.29	0.76	0.33	0.71
d, Delay for Lane Group [s/veh]	46.44	10.81	8.07	43.43	10.25	10.61	50.77	35.78	36.58	51.11	39.02	46.08
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.65	4.53	0.42	0.69	3.05	3.23	3.90	1.05	1.21	2.29	1.13	2.46
50th-Percentile Queue Length [ft/ln]	41.27	113.15	10.49	17.17	76.26	80.79	97.53	26.35	30.20	57.14	28.33	61.59
95th-Percentile Queue Length [veh/ln]	2.97	8.01	0.76	1.24	5.49	5.82	7.02	1.90	2.17	4.11	2.04	4.43
95th-Percentile Queue Length [ft/ln]	74.28	200.37	18.89	30.91	137.27	145.41	175.55	47.44	54.37	102.84	51.00	110.86

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	46.44	10.81	8.07	43.43	10.36	10.61	50.77	35.78	36.58	51.11	39.02	46.08
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	14.04			12.36			43.21			45.07		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	19.46											
Intersection LOS	B											
Intersection V/C	0.423											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.45	36.45	36.45	36.45
I_p,int, Pedestrian LOS Score for Intersection	3.155	3.072	2.588	2.594
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	578	800	756
d_b, Bicycle Delay [s]	22.76	22.76	16.20	17.42
I_b,int, Bicycle LOS Score for Intersection	2.401	2.125	1.840	1.837
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	3	6	13	0	12	13	442	5	8	224	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	3	6	13	0	12	13	442	5	8	224	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	2	3	0	3	3	116	1	2	59	3
Total Analysis Volume [veh/h]	5	3	6	14	0	13	14	465	5	8	236	11
Pedestrian Volume [ped/h]	0			0			0			0		

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**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	670	673	840	802
Degree of Utilization, x	0.02	0.04	0.58	0.32

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.06	0.13	3.76	1.37
95th-Percentile Queue Length [ft]	1.60	3.13	94.01	34.24
Approach Delay [s/veh]	8.49	8.57	12.94	9.56
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	11.61			
Intersection LOS	B			

**Intersection Level Of Service Report**  
**Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	45.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.988

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	75	320	59	9	192	7	14	154	265	96	128	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	320	59	9	192	7	14	154	265	96	128	25
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	84	16	2	51	2	4	41	70	25	34	7
Total Analysis Volume [veh/h]	79	337	62	9	202	7	15	162	279	101	135	26
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	484	427	497	435
Degree of Utilization, x	0.99	0.51	0.92	0.60

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	13.02	2.82	10.79	3.84
95th-Percentile Queue Length [ft]	325.39	70.62	269.69	96.12
Approach Delay [s/veh]	65.18	19.91	49.63	22.96
Approach LOS	F	C	E	C
Intersection Delay [s/veh]	45.36			
Intersection LOS	E			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.089

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↷	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	299	39	22	239	37	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	299	39	22	239	37	97
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	10	6	63	10	26
Total Analysis Volume [veh/h]	315	41	23	252	39	102
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.09	0.14
d_M, Delay for Movement [s/veh]	0.00	0.00	8.02	0.00	15.03	11.86
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.06	0.90	0.90
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.45	1.45	22.40	22.40
d_A, Approach Delay [s/veh]	0.00		0.67		12.73	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.56					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.108

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	10	10	39	34	12	42	5	250	6	10	340	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	39	34	12	42	5	250	6	10	340	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	10	9	3	11	1	66	2	3	89	3
Total Analysis Volume [veh/h]	11	11	41	36	13	44	5	263	6	11	358	11
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.03	0.05	0.11	0.03	0.06	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	16.90	15.43	10.49	17.90	16.61	12.32	8.01	0.00	0.00	7.78	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.39	0.39	0.39	0.77	0.77	0.77	0.01	0.01	0.01	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	9.75	9.75	9.75	19.22	19.22	19.22	0.31	0.31	0.31	0.64	0.64	0.64
d_A, Approach Delay [s/veh]	12.47			15.08			0.15			0.23		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.86											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.058

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↔		↕		↔	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	36	4	2	218	104	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	4	2	218	104	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	1	1	57	27	2
Total Analysis Volume [veh/h]	38	4	2	229	109	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.86	9.16	7.43	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.97	4.97	0.10	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	10.70		0.06		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.19					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type: All-way stop  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 8.5  
 Level Of Service: A  
 Volume to Capacity (v/c): 0.246

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	7	38	6	14	18	27	8	164	15	3	78	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	38	6	14	18	27	8	164	15	3	78	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	10	2	4	5	7	2	43	4	1	21	4
Total Analysis Volume [veh/h]	7	40	6	15	19	28	8	173	16	3	82	18
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	776	810	736	865	726	849
Degree of Utilization, x	0.07	0.08	0.25	0.02	0.12	0.02

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.22	0.25	0.96	0.06	0.40	0.06
95th-Percentile Queue Length [ft]	5.48	6.20	24.11	1.41	9.90	1.62
Approach Delay [s/veh]	7.98	7.82	8.99		8.09	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	8.46					
Intersection LOS	A					

**Intersection Level Of Service Report**  
**Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	47.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.959

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	386	1196	0	0	1345	1012	0	0	0	358	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	253	0	0	0	0	0	122
Total Hourly Volume [veh/h]	386	1196	0	0	1345	759	0	0	0	358	5	364
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	315	0	0	354	200	0	0	0	94	1	96
Total Analysis Volume [veh/h]	406	1259	0	0	1416	799	0	0	0	377	5	383
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0					0		
v_di, Inbound Pedestrian Volume crossing major street		0			0					0		
v_co, Outbound Pedestrian Volume crossing minor street		0			0					0		
v_ci, Inbound Pedestrian Volume crossing minor street		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	22	63	0	0	41	0	0	0	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	85	85	85	85		85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	18	59	37	37		18	18
g / C, Green / Cycle	0.21	0.69	0.43	0.43		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.35	0.27	0.49		0.22	0.23
s, saturation flow rate [veh/h]	1714	3618	5176	1615		1802	1615
c, Capacity [veh/h]	364	2510	2249	702		382	343
d1, Uniform Delay [s]	33.51	6.12	18.72	24.05		33.51	33.51
k, delay calibration	0.21	0.50	0.50	0.50		0.18	0.19
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	67.74	0.72	1.35	78.88		37.75	51.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.12	0.50	0.63	1.14		1.04	1.07
d, Delay for Lane Group [s/veh]	101.25	6.84	20.06	102.93		71.26	85.39
Lane Group LOS	F	A	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	14.10	4.45	7.08	28.37		11.64	11.78
50th-Percentile Queue Length [ft/ln]	352.62	111.14	176.97	709.24		291.08	294.46
95th-Percentile Queue Length [veh/ln]	21.45	7.90	11.44	40.62		17.59	18.06
95th-Percentile Queue Length [ft/ln]	536.24	197.59	286.06	1015.59		439.72	451.53

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	101.25	6.84	0.00	0.00	20.06	102.93	0.00	0.00	0.00	71.26	71.26	85.37
Movement LOS	F	A			C	F				E	E	F
d_A, Approach Delay [s/veh]	29.86				49.96		0.00				78.05	
Approach LOS	C				D		A				E	
d_I, Intersection Delay [s/veh]	47.38											
Intersection LOS	D											
Intersection V/C	0.959											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		33.98		33.98	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.427		2.401	
Crosswalk LOS	F		F		B		B	
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1388		871		0		424	
d_b, Bicycle Delay [s]	3.98		13.55		42.50		26.41	
I_b,int, Bicycle LOS Score for Intersection	2.933		2.917		4.132		3.023	
Bicycle LOS	C		C		D		C	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	55.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.918

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	r			r			r+					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.0
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1494	385	487	1257	0	608	4	476	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	96	0	0	0	0	0	119	0	0	0
Total Hourly Volume [veh/h]	0	1494	289	487	1257	0	608	4	357	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	393	76	128	331	0	160	1	94	0	0	0
Total Analysis Volume [veh/h]	0	1573	304	513	1323	0	640	4	376	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	28	56	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	85	85	85	85	85	85	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	24	24	24	52	25	25	
g / C, Green / Cycle	0.28	0.28	0.28	0.61	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.30	0.19	0.30	0.37	0.29	0.31	
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1666	
c, Capacity [veh/h]	1462	456	484	2214	504	490	
d1, Uniform Delay [s]	30.54	27.00	30.54	10.11	29.85	30.05	
k, delay calibration	0.50	0.50	0.34	0.50	0.32	0.37	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	46.90	7.51	50.58	1.20	28.43	54.92	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.08	0.67	1.06	0.60	0.98	1.07	
d, Delay for Lane Group [s/veh]	77.45	34.50	81.12	11.31	58.28	84.97	
Lane Group LOS	F	C	F	B	E	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	15.91	6.22	16.30	6.93	13.62	17.05	
50th-Percentile Queue Length [ft/ln]	397.65	155.53	407.50	173.16	340.41	426.32	
95th-Percentile Queue Length [veh/ln]	23.44	10.31	23.73	11.24	19.67	24.82	
95th-Percentile Queue Length [ft/ln]	586.12	257.79	593.36	281.07	491.71	620.38	

**Movement, Approach, & Intersection Results**

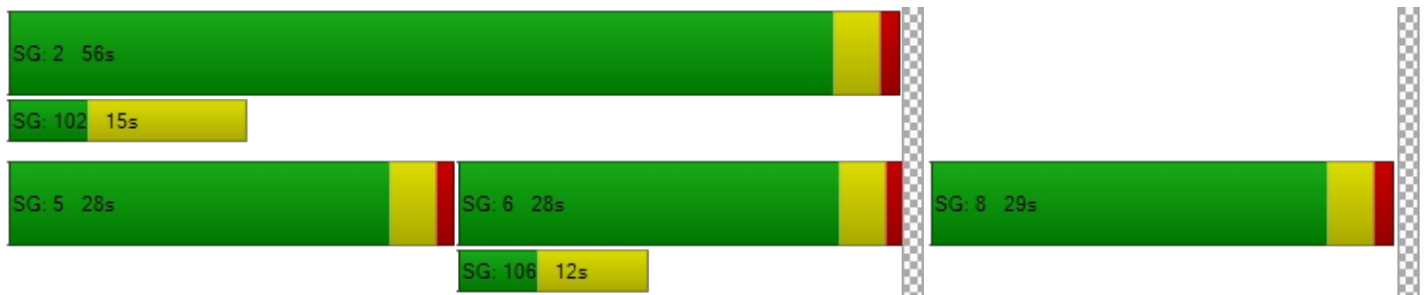
d_M, Delay for Movement [s/veh]	0.00	77.45	34.50	81.12	11.31	0.00	63.94	84.97	84.97	0.00	0.00	0.00
Movement LOS		F	C	F	B		E	F	F			
d_A, Approach Delay [s/veh]	70.49			30.81			71.99			0.00		
Approach LOS	E			C			E			A		
d_I, Intersection Delay [s/veh]	55.42											
Intersection LOS	E											
Intersection V/C	0.918											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			33.98			33.98		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.478			2.161		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	565			1224			588			0		
d_b, Bicycle Delay [s]	21.89			6.41			21.18			42.50		
I_b,int, Bicycle LOS Score for Intersection	2.645			3.074			3.439			4.132		
Bicycle LOS	B			C			C			D		

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.511

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1489	4	80	1476	190	103	0	35	0	0	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	48	0	0	9	0	0	26
Total Hourly Volume [veh/h]	5	1489	3	80	1476	142	103	0	26	0	0	77
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	392	1	21	388	37	27	0	7	0	0	20
Total Analysis Volume [veh/h]	5	1567	3	84	1554	149	108	0	27	0	0	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	12	19	0	0	47	0	0	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	51	51	59	54	54	8	8	8
g / C, Green / Cycle	0.79	0.68	0.68	0.79	0.73	0.73	0.11	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.01	0.41	0.41	0.18	0.43	0.09	0.08	0.02	0.05
s, saturation flow rate [veh/h]	398	1900	1899	478	3618	1615	1338	1615	1615
c, Capacity [veh/h]	379	1286	1285	437	2623	1171	145	173	221
d1, Uniform Delay [s]	3.63	6.69	6.69	4.76	4.97	3.13	32.72	30.46	31.53
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	2.17	2.17	0.98	0.99	0.22	7.25	0.42	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	0.61	0.61	0.19	0.59	0.13	0.74	0.16	0.37
d, Delay for Lane Group [s/veh]	3.64	8.86	8.86	5.73	5.97	3.35	39.97	30.88	32.55
Lane Group LOS	A	A	A	A	A	A	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.01	5.91	5.91	0.26	4.21	0.54	2.15	0.45	1.40
50th-Percentile Queue Length [ft/ln]	0.23	147.66	147.64	6.41	105.25	13.42	53.76	11.31	35.12
95th-Percentile Queue Length [veh/ln]	0.02	9.89	9.89	0.46	7.57	0.97	3.87	0.81	2.53
95th-Percentile Queue Length [ft/ln]	0.42	247.30	247.28	11.54	189.37	24.15	96.77	20.35	63.22

**Movement, Approach, & Intersection Results**

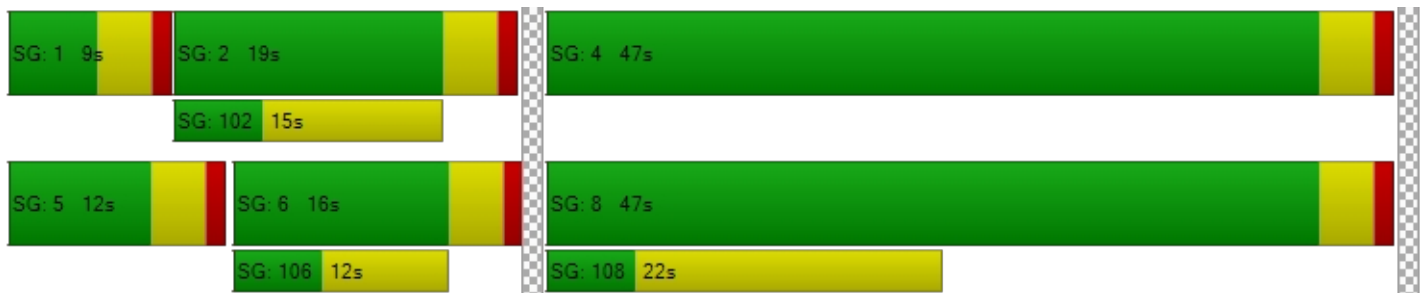
d_M, Delay for Movement [s/veh]	3.64	8.86	8.86	5.73	5.97	3.35	39.97	30.88	30.88	32.55	32.55	32.55
Movement LOS	A	A	A	A	A	A	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.84			5.74			38.15			32.55		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	8.93											
Intersection LOS	A											
Intersection V/C	0.511											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.04	0.00	29.04	29.04
I_p,int, Pedestrian LOS Score for Intersection	2.911	0.000	2.063	1.923
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	320	400	1147	1147
d_b, Bicycle Delay [s]	26.46	24.00	6.83	6.83
I_b,int, Bicycle LOS Score for Intersection	2.860	3.073	1.797	1.736
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 14: Cedar Ave/Slover Ave**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 38.1  
 Level Of Service: D  
 Volume to Capacity (v/c): 0.719

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	956	12	314	988	174	205	75	54	10	117	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	44	0	0	14	0	0	68
Total Hourly Volume [veh/h]	99	956	9	314	988	130	205	75	40	10	117	202
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	252	2	83	260	34	54	20	11	3	31	53
Total Analysis Volume [veh/h]	104	1006	9	331	1040	137	216	79	42	11	123	213
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	27	45	0	18	36	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	37	37	22	51	51	14	29	29	1	16	16
g / C, Green / Cycle	0.08	0.35	0.35	0.21	0.48	0.48	0.13	0.27	0.27	0.01	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.19	0.31	0.32	0.13	0.02	0.03	0.01	0.06	0.13
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1824	1714	3618	1615	1714	1900	1615
c, Capacity [veh/h]	130	664	662	360	919	883	229	991	442	24	293	249
d1, Uniform Delay [s]	47.78	30.34	30.35	40.65	20.42	20.53	45.12	28.33	28.45	51.41	40.20	43.30
k, delay calibration	0.11	0.50	0.50	0.21	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.65	8.18	8.21	16.66	3.55	3.82	16.75	0.03	0.09	12.52	0.96	8.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.76	0.77	0.92	0.65	0.66	0.94	0.08	0.09	0.45	0.42	0.85
d, Delay for Lane Group [s/veh]	58.43	38.53	38.55	57.31	23.96	24.35	61.88	28.37	28.55	63.93	41.15	51.48
Lane Group LOS	E	D	D	E	C	C	E	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.05	12.66	12.63	9.94	11.48	11.27	6.60	0.74	0.80	0.37	2.95	5.92
50th-Percentile Queue Length [ft/ln]	76.32	316.56	315.72	248.60	287.11	281.85	165.09	18.60	20.02	9.29	73.64	147.89
95th-Percentile Queue Length [veh/ln]	5.50	18.50	18.46	15.12	17.04	16.78	10.82	1.34	1.44	0.67	5.30	9.90
95th-Percentile Queue Length [ft/ln]	137.38	462.46	461.42	377.88	426.05	419.51	270.45	33.48	36.03	16.71	132.55	247.61

**Movement, Approach, & Intersection Results**

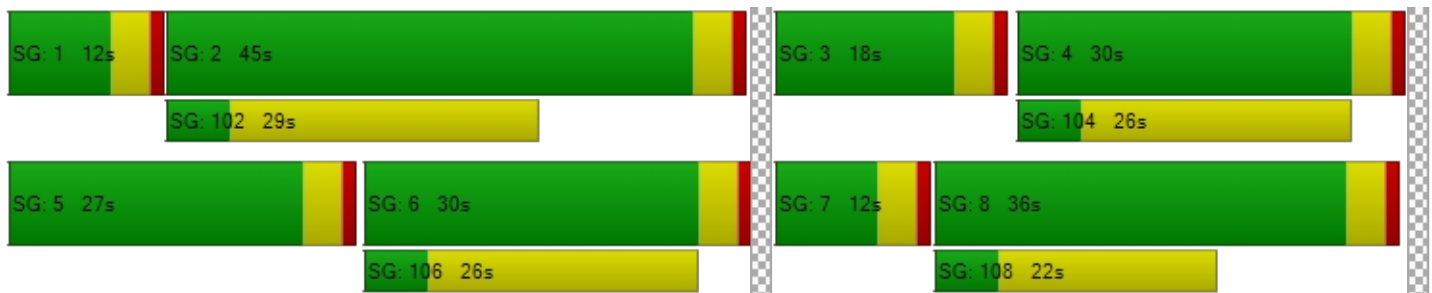
d_M, Delay for Movement [s/veh]	58.43	38.54	38.55	57.31	24.13	24.35	61.88	28.37	28.55	63.93	41.15	51.48
Movement LOS	E	D	D	E	C	C	E	C	C	E	D	D
d_A, Approach Delay [s/veh]	40.39			31.43			49.87			48.21		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	38.09											
Intersection LOS	D											
Intersection V/C	0.719											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	43.89			43.89			43.89			43.89		
I_p,int, Pedestrian LOS Score for Intersection	2.748			3.021			2.728			2.695		
Crosswalk LOS	B			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	495			781			610			495		
d_b, Bicycle Delay [s]	29.72			19.50			25.38			29.72		
I_b,int, Bicycle LOS Score for Intersection	2.485			2.840			1.849			1.902		
Bicycle LOS	B			C			A			A		

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.459

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	25	62	875	53	121	63	91	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	13	0	0	23	0	0	10
Total Hourly Volume [veh/h]	69	780	19	62	875	40	121	63	68	10	65	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	205	5	16	230	11	32	17	18	3	17	7
Total Analysis Volume [veh/h]	73	821	20	65	921	42	127	66	72	11	68	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	33	33	3	33	33	11	11
g / C, Green / Cycle	0.06	0.55	0.55	0.06	0.55	0.55	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.04	0.22	0.22	0.04	0.26	0.26	0.16	0.06
s, saturation flow rate [veh/h]	1714	1900	1884	1714	1900	1871	1641	1832
c, Capacity [veh/h]	102	1050	1042	96	1044	1028	402	416
d1, Uniform Delay [s]	27.74	7.72	7.72	27.81	8.19	8.19	23.14	20.90
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.82	1.15	1.16	7.92	1.49	1.51	1.84	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.40	0.40	0.67	0.46	0.46	0.66	0.26
d, Delay for Lane Group [s/veh]	36.56	8.87	8.88	35.73	9.68	9.70	24.99	21.23
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.23	2.81	2.79	1.08	3.44	3.39	3.53	1.20
50th-Percentile Queue Length [ft/ln]	30.69	70.23	69.72	27.03	86.00	84.85	88.20	30.11
95th-Percentile Queue Length [veh/ln]	2.21	5.06	5.02	1.95	6.19	6.11	6.35	2.17
95th-Percentile Queue Length [ft/ln]	55.23	126.42	125.50	48.66	154.79	152.73	158.76	54.21

**Movement, Approach, & Intersection Results**

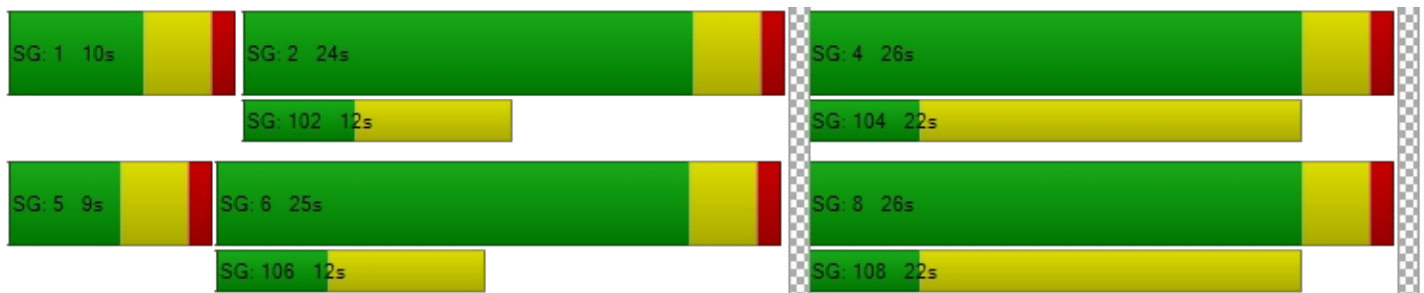
d_M, Delay for Movement [s/veh]	36.56	8.87	8.88	35.73	9.69	9.70	24.99	24.99	24.99	21.23	21.23	21.23
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.08			11.34			24.99			21.23		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.26											
Intersection LOS	B											
Intersection V/C	0.459											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.684			2.875			1.964			1.888		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			667			733			733		
d_b, Bicycle Delay [s]	12.68			13.33			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.319			2.418			2.035			1.754		
Bicycle LOS	B			B			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	52.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.061

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	34	759	107	92	1069	23	59	68	116	80	44	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	27	0	0	6	0	0	29	0	0	12
Total Hourly Volume [veh/h]	34	759	80	92	1069	17	59	68	87	80	44	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	200	21	24	281	4	16	18	23	21	12	10
Total Analysis Volume [veh/h]	36	799	84	97	1125	18	62	72	92	84	46	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	16	16	4	18	18	28	28	28	28
g / C, Green / Cycle	0.04	0.26	0.26	0.07	0.30	0.30	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.24	0.06	0.30	0.30	0.84	0.06	1.74	0.02
s, saturation flow rate [veh/h]	1714	1900	1837	1714	1900	1889	159	1615	75	1615
c, Capacity [veh/h]	64	503	487	122	568	564	161	749	133	749
d1, Uniform Delay [s]	28.38	21.22	21.22	27.42	21.04	21.04	15.37	9.15	22.72	8.84
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.36	20.65	21.21	10.90	40.14	40.35	36.90	0.07	71.29	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.56	0.89	0.89	0.79	1.01	1.01	0.83	0.12	0.97	0.05
d, Delay for Lane Group [s/veh]	35.74	41.87	42.43	38.33	61.17	61.39	52.27	9.22	94.02	8.87
Lane Group LOS	D	D	D	D	F	F	D	A	F	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.62	8.41	8.21	1.67	13.47	13.43	2.61	0.60	4.43	0.25
50th-Percentile Queue Length [ft/ln]	15.39	210.20	205.15	41.63	336.86	335.83	65.14	15.08	110.86	6.17
95th-Percentile Queue Length [veh/ln]	1.11	13.16	12.90	3.00	19.61	19.56	4.69	1.09	7.89	0.44
95th-Percentile Queue Length [ft/ln]	27.70	329.09	322.59	74.94	490.21	489.06	117.26	27.15	197.20	11.11

**Movement, Approach, & Intersection Results**

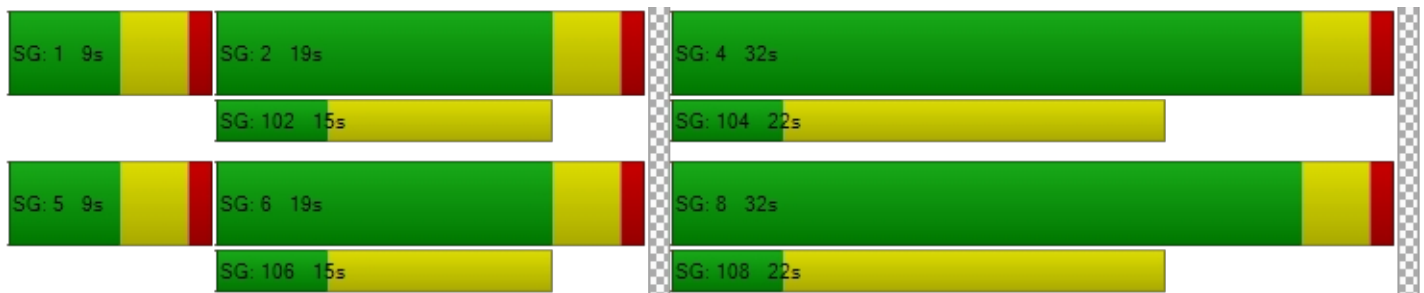
d_M, Delay for Movement [s/veh]	35.74	42.12	42.43	38.33	61.28	61.39	52.27	52.27	9.22	94.02	94.02	8.87
Movement LOS	D	D	D	D	E	E	D	D	A	F	F	A
d_A, Approach Delay [s/veh]	41.90			59.48			34.75			74.37		
Approach LOS	D			E			C			E		
d_I, Intersection Delay [s/veh]	51.95											
Intersection LOS	D											
Intersection V/C	2.061											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.882			2.798			2.079			2.088		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	500			500			933			933		
d_b, Bicycle Delay [s]	16.88			16.88			8.53			8.53		
I_b,int, Bicycle LOS Score for Intersection	2.340			2.588			1.980			1.858		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	28	769	1	19	1167	28	109	30	35	24	19	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	7	0	0	9	0	0	5
Total Hourly Volume [veh/h]	28	769	1	19	1167	21	109	30	26	24	19	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	202	0	5	307	6	29	8	7	6	5	4
Total Analysis Volume [veh/h]	29	809	1	20	1228	22	115	32	27	25	20	16
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	39	39	1	38	38	8	8
g / C, Green / Cycle	0.03	0.65	0.65	0.02	0.64	0.64	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.21	0.21	0.01	0.33	0.33	0.11	0.03
s, saturation flow rate [veh/h]	1714	1900	1899	1714	1900	1888	1650	1772
c, Capacity [veh/h]	57	1223	1222	42	1207	1200	317	318
d1, Uniform Delay [s]	28.57	4.85	4.85	28.91	5.96	5.96	25.08	23.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.96	0.73	0.73	7.93	1.60	1.61	1.48	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.33	0.33	0.47	0.52	0.52	0.55	0.19
d, Delay for Lane Group [s/veh]	35.53	5.57	5.57	36.84	7.56	7.57	26.56	23.72
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.50	1.81	1.81	0.36	3.50	3.48	2.37	0.76
50th-Percentile Queue Length [ft/ln]	12.51	45.17	45.15	9.11	87.48	87.10	59.34	18.97
95th-Percentile Queue Length [veh/ln]	0.90	3.25	3.25	0.66	6.30	6.27	4.27	1.37
95th-Percentile Queue Length [ft/ln]	22.52	81.30	81.27	16.39	157.46	156.78	106.81	34.15

**Movement, Approach, & Intersection Results**

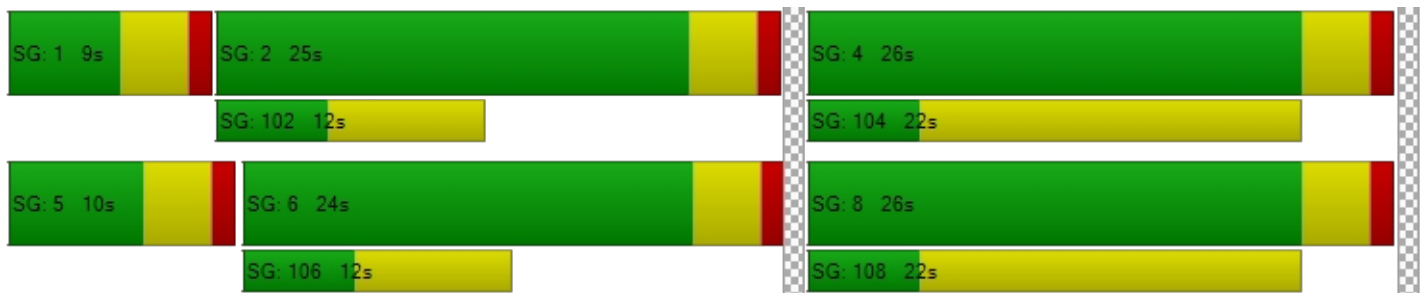
d_M, Delay for Movement [s/veh]	35.53	5.57	5.57	36.84	7.57	7.57	26.56	26.56	26.56	23.72	23.72	23.72
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.61			8.03			26.56			23.72		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.30											
Intersection LOS	A											
Intersection V/C	0.452											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.731			2.887			1.836			1.761		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	667			700			733			733		
d_b, Bicycle Delay [s]	13.33			12.68			12.03			12.03		
I_b,int, Bicycle LOS Score for Intersection	2.252			2.613			1.862			1.669		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	172	713	13	27	1316	100	34	18	97	71	49	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	25	0	0	24	0	0	4
Total Hourly Volume [veh/h]	172	713	10	27	1316	75	34	18	73	71	49	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	188	3	7	346	20	9	5	19	19	13	3
Total Analysis Volume [veh/h]	181	751	11	28	1385	79	36	19	77	75	52	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	21	0	9	18	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	40	40	2	34	34	7	7
g / C, Green / Cycle	0.13	0.66	0.66	0.03	0.56	0.56	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.11	0.20	0.20	0.02	0.39	0.39	0.07	0.09
s, saturation flow rate [veh/h]	1714	1900	1890	1714	1900	1864	1778	1565
c, Capacity [veh/h]	225	1251	1245	57	1065	1045	269	262
d1, Uniform Delay [s]	25.38	4.39	4.39	28.58	9.49	9.53	25.83	26.17
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.59	0.63	0.63	6.40	3.70	3.83	1.38	1.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.31	0.31	0.49	0.69	0.70	0.49	0.53
d, Delay for Lane Group [s/veh]	31.97	5.02	5.02	34.98	13.19	13.36	27.21	27.83
Lane Group LOS	C	A	A	C	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.77	1.57	1.56	0.48	6.47	6.43	1.81	1.94
50th-Percentile Queue Length [ft/ln]	69.14	39.25	39.08	11.97	161.75	160.83	45.25	48.62
95th-Percentile Queue Length [veh/ln]	4.98	2.83	2.81	0.86	10.64	10.59	3.26	3.50
95th-Percentile Queue Length [ft/ln]	124.45	70.65	70.34	21.55	266.04	264.83	81.45	87.51



**Movement, Approach, & Intersection Results**

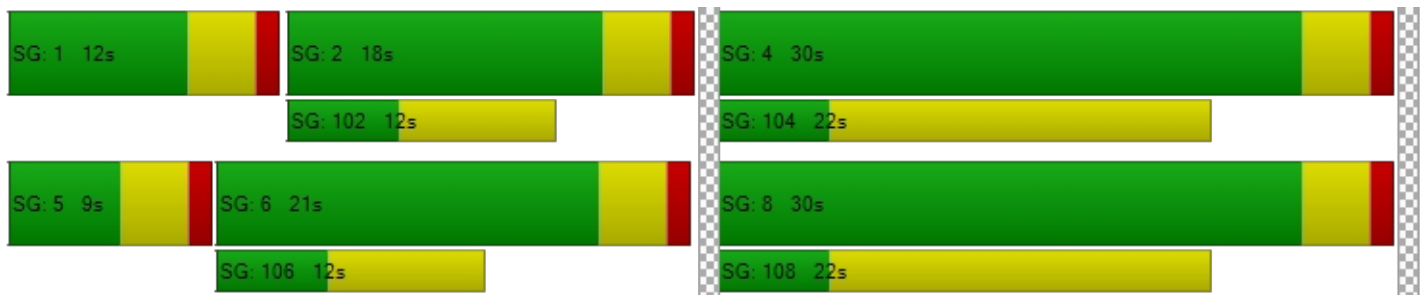
d_M, Delay for Movement [s/veh]	31.97	5.02	5.02	34.98	13.27	13.36	27.21	27.21	27.21	27.83	27.83	27.83
Movement LOS	C	A	A	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	10.20			13.68			27.21			27.83		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.85											
Intersection LOS	B											
Intersection V/C	0.584											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.68			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	2.880			2.820			1.970			1.801		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	567			467			867			867		
d_b, Bicycle Delay [s]	15.41			17.63			9.63			9.63		
I_b,int, Bicycle LOS Score for Intersection	2.340			2.811			1.817			1.796		
Bicycle LOS	B			C			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	24.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.752

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	640	171	295	1162	6	8	0	10	342	1	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	43	0	0	2	0	0	3	0	0	22
Total Hourly Volume [veh/h]	4	640	128	295	1162	4	8	0	7	342	1	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	168	34	78	306	1	2	0	2	90	0	17
Total Analysis Volume [veh/h]	4	674	135	311	1223	4	8	0	7	360	1	69
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	26	0	18	32	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	22	22	14	36	36	22	22	22
g / C, Green / Cycle	0.01	0.31	0.31	0.20	0.51	0.51	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.00	0.22	0.22	0.18	0.32	0.32	0.10	0.35	0.04
s, saturation flow rate [veh/h]	1714	1900	1791	1714	1900	1898	143	1027	1615
c, Capacity [veh/h]	12	597	563	344	965	964	124	425	507
d1, Uniform Delay [s]	34.65	21.10	21.11	27.38	12.54	12.55	19.57	25.25	17.24
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.32	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.16	6.60	7.01	8.89	3.20	3.20	0.43	12.85	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.33	0.70	0.70	0.90	0.64	0.64	0.12	0.85	0.14
d, Delay for Lane Group [s/veh]	49.81	27.70	28.12	36.27	15.74	15.75	20.01	38.11	17.36
Lane Group LOS	D	C	C	D	B	B	C	D	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.12	6.67	6.36	5.67	6.92	6.91	0.17	7.35	0.77
50th-Percentile Queue Length [ft/ln]	2.92	166.69	159.04	141.66	172.89	172.82	4.33	183.75	19.28
95th-Percentile Queue Length [veh/ln]	0.21	10.90	10.50	9.57	11.23	11.22	0.31	11.80	1.39
95th-Percentile Queue Length [ft/ln]	5.26	272.55	262.45	239.26	280.71	280.62	7.80	294.91	34.71

**Movement, Approach, & Intersection Results**

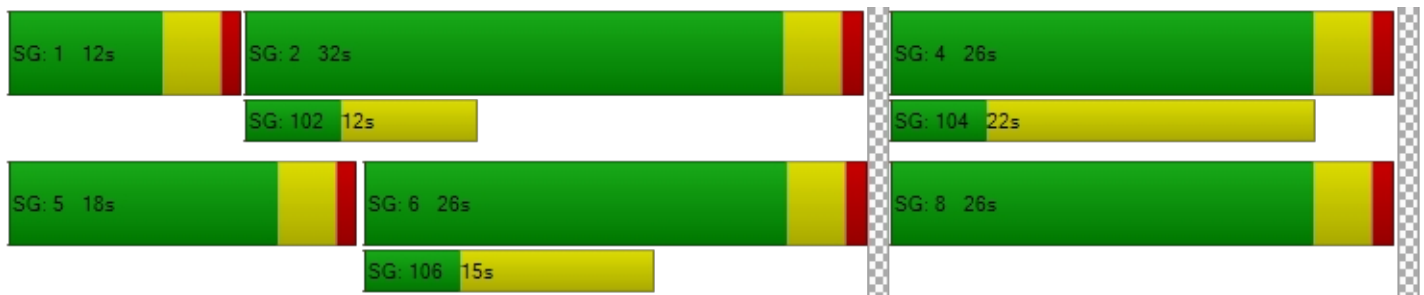
d_M, Delay for Movement [s/veh]	49.81	27.86	28.12	36.27	15.74	15.75	20.01	20.01	20.01	38.11	38.11	17.36
Movement LOS	D	C	C	D	B	B	C	C	C	D	D	B
d_A, Approach Delay [s/veh]	28.01		19.89			20.01			34.78			
Approach LOS	C		B			C			C			
d_I, Intersection Delay [s/veh]	24.54											
Intersection LOS	C											
Intersection V/C	0.752											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	26.58	26.58
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.754	1.722	2.266
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	629	800	629	629
d_b, Bicycle Delay [s]	16.46	12.60	16.46	16.46
I_b,int, Bicycle LOS Score for Intersection	2.266	2.830	1.589	2.305
Bicycle LOS	B	C	A	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	52.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.841

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	66	355	417	560	782	43	34	70	49	315	117	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	104	0	0	11	0	0	12	0	0	120
Total Hourly Volume [veh/h]	66	355	313	560	782	32	34	70	37	315	117	361
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	93	82	147	206	8	9	18	10	83	31	95
Total Analysis Volume [veh/h]	69	374	329	589	823	34	36	74	39	332	123	380
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	33	24	0	34	25	0	0	10	0	0	27	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	20	20	30	45	45	6	6	23
g / C, Green / Cycle	0.05	0.21	0.21	0.32	0.48	0.48	0.06	0.06	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.10	0.20	0.33	0.23	0.02	0.02	0.06	0.25
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1791	1833
c, Capacity [veh/h]	92	766	342	571	1724	770	113	112	444
d1, Uniform Delay [s]	44.53	32.94	37.09	32.54	16.87	13.31	42.65	44.58	36.03
k, delay calibration	0.11	0.50	0.50	0.47	0.50	0.50	0.11	0.11	0.29
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.50	2.22	39.87	45.05	0.95	0.11	1.61	42.73	39.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.49	0.96	1.03	0.48	0.04	0.32	1.01	1.03
d, Delay for Lane Group [s/veh]	56.03	35.16	76.96	77.59	17.82	13.42	44.26	87.30	75.45
Lane Group LOS	E	D	E	F	B	B	D	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.89	3.98	11.20	19.81	6.05	0.40	0.85	3.93	14.88
50th-Percentile Queue Length [ft/ln]	47.13	99.44	280.02	495.21	151.37	10.08	21.33	98.17	372.06
95th-Percentile Queue Length [veh/ln]	3.39	7.16	16.69	27.67	10.09	0.73	1.54	7.07	21.52
95th-Percentile Queue Length [ft/ln]	84.83	178.98	417.24	691.70	252.26	18.14	38.40	176.71	538.05

**Movement, Approach, & Intersection Results**

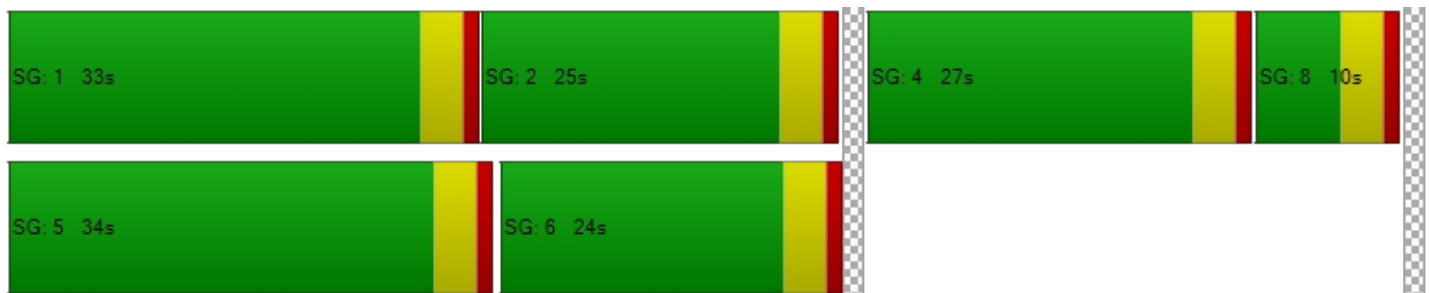
d_M, Delay for Movement [s/veh]	56.03	35.16	76.96	77.59	17.82	13.42	44.26	87.30	87.30	75.45	75.45	0.00
Movement LOS	E	D	E	F	B	B	D	F	F	E	E	
d_A, Approach Delay [s/veh]	54.84			42.06			76.90			75.45		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	52.78											
Intersection LOS	D											
Intersection V/C	0.841											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	421			442			126			484		
d_b, Bicycle Delay [s]	29.61			28.82			41.69			27.28		
I_b,int, Bicycle LOS Score for Intersection	2.282			2.762			1.825			2.310		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.702

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	6	280	22	383	416	573	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	96	0	0	5	0	0	55
Total Hourly Volume [veh/h]	9	5	4	280	22	287	416	573	16	5	551	166
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	74	6	76	109	151	4	1	145	44
Total Analysis Volume [veh/h]	9	5	4	295	23	302	438	603	17	5	580	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	26	35	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2020 (SP 0-5)

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	20	34	34	1	14	14
g / C, Green / Cycle	0.38	0.38	0.38	0.27	0.45	0.45	0.01	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.04	0.30	0.19	0.24	0.17	0.01	0.00	0.16	0.11
s, saturation flow rate [veh/h]	413	1063	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	230	499	617	482	1628	727	15	693	309
d1, Uniform Delay [s]	17.58	21.08	17.63	26.66	13.64	11.48	37.04	29.23	27.52
k, delay calibration	0.50	0.50	0.50	0.16	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.66	6.13	2.76	9.68	0.14	0.01	12.84	2.77	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.08	0.64	0.49	0.91	0.37	0.02	0.34	0.84	0.57
d, Delay for Lane Group [s/veh]	18.24	27.20	20.39	36.34	13.78	11.50	49.89	32.00	29.14
Lane Group LOS	B	C	C	D	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.22	5.52	4.19	8.47	3.13	0.15	0.14	5.09	2.88
50th-Percentile Queue Length [ft/ln]	5.60	138.00	104.63	211.81	78.36	3.75	3.55	127.26	72.02
95th-Percentile Queue Length [veh/ln]	0.40	9.37	7.53	13.25	5.64	0.27	0.26	8.79	5.19
95th-Percentile Queue Length [ft/ln]	10.08	234.32	188.33	331.14	141.04	6.75	6.39	219.77	129.63

**Movement, Approach, & Intersection Results**

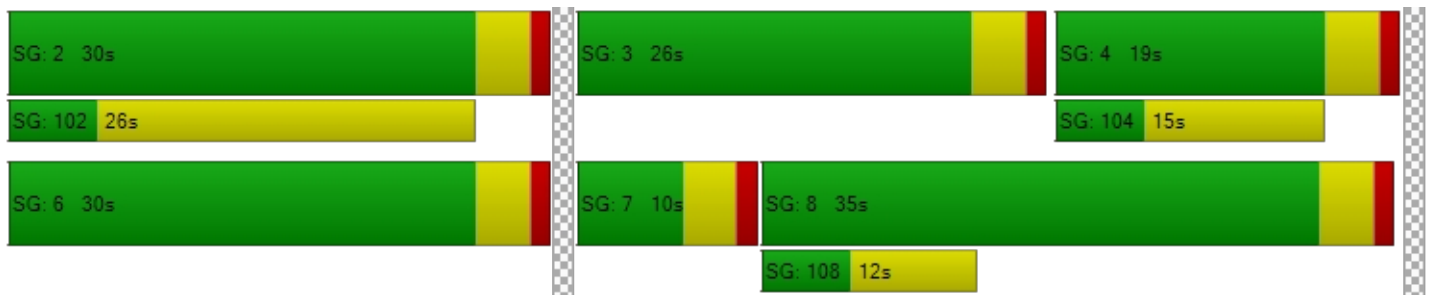
d_M, Delay for Movement [s/veh]	18.24	18.24	18.24	27.20	27.20	20.39	36.34	13.78	11.50	49.89	32.00	29.14
Movement LOS	B	B	B	C	C	C	D	B	B	D	C	C
d_A, Approach Delay [s/veh]	18.24			23.89			23.08			31.46		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	25.84											
Intersection LOS	C											
Intersection V/C	0.702											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.04	29.04	29.04	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.744	2.521	2.798	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	827	400
d_b, Bicycle Delay [s]	16.01	16.01	12.91	24.00
I_b,int, Bicycle LOS Score for Intersection	1.593	2.741	2.437	2.232
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.567

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	773	203	38	786	0	4	31	82	101	17	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	21	0	0	6
Total Hourly Volume [veh/h]	58	773	152	38	786	0	4	31	61	101	17	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	203	40	10	207	0	1	8	16	27	4	4
Total Analysis Volume [veh/h]	61	814	160	40	827	0	4	33	64	106	18	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	22	0	9	19	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	50	50	3	49	49	5	5	7	7
g / C, Green / Cycle	0.05	0.62	0.62	0.04	0.61	0.61	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.43	0.10	0.02	0.44	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	1810	1750
c, Capacity [veh/h]	87	1174	998	70	1156	983	115	99	150	145
d1, Uniform Delay [s]	37.62	10.24	6.50	37.92	10.89	0.00	36.06	36.82	35.82	34.41
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.88	3.38	0.34	7.29	3.80	0.00	1.58	6.97	5.93	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.69	0.16	0.58	0.72	0.00	0.32	0.65	0.71	0.24
d, Delay for Lane Group [s/veh]	47.51	13.62	6.84	45.21	14.69	0.00	37.64	43.79	41.75	35.26
Lane Group LOS	D	B	A	D	B	A	D	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	9.04	1.08	0.90	9.69	0.00	0.73	1.39	2.22	0.66
50th-Percentile Queue Length [ft/ln]	34.86	225.94	27.12	22.47	242.25	0.00	18.27	34.81	55.55	16.51
95th-Percentile Queue Length [veh/ln]	2.51	13.97	1.95	1.62	14.80	0.00	1.32	2.51	4.00	1.19
95th-Percentile Queue Length [ft/ln]	62.75	349.19	48.82	40.45	369.88	0.00	32.89	62.65	100.00	29.72

**Movement, Approach, & Intersection Results**

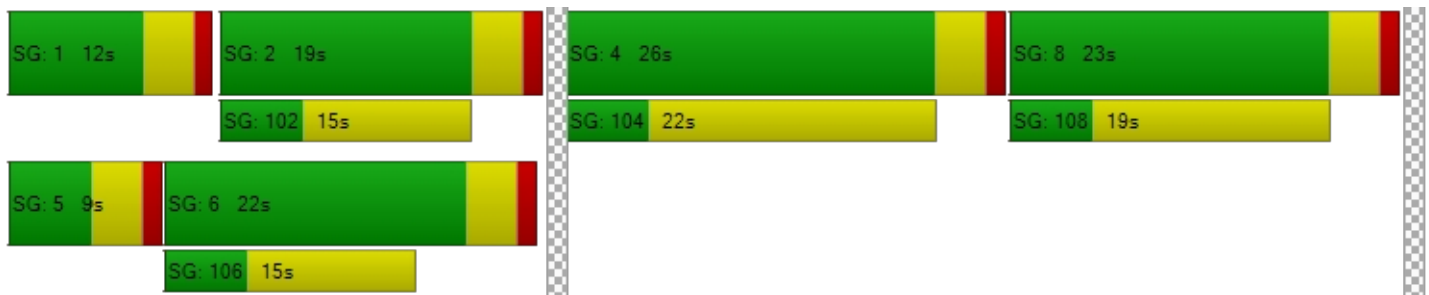
d_M, Delay for Movement [s/veh]	47.51	13.62	6.84	45.21	14.69	0.00	37.64	37.64	43.79	41.75	35.26	35.26
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	14.57			16.10			41.54			40.14		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.14											
Intersection LOS	B											
Intersection V/C	0.567											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	31.51			31.51			31.51			31.51		
I_p,int, Pedestrian LOS Score for Intersection	2.712			2.629			2.031			2.084		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	450			375			475			550		
d_b, Bicycle Delay [s]	24.03			26.41			23.26			21.03		
I_b,int, Bicycle LOS Score for Intersection	3.352			2.990			1.761			1.802		
Bicycle LOS	C			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1011	197	42	904	0	0	0	9	215	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	49	0	0	0	0	0	2	0	0	11
Total Hourly Volume [veh/h]	30	1011	148	42	904	0	0	0	7	215	5	32
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	266	39	11	238	0	0	0	2	57	1	8
Total Analysis Volume [veh/h]	32	1064	156	44	952	0	0	0	7	226	5	34
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Overla	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	25	9	22	0	0	10	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	44	44	3	44	44	1	1	7	7	7
g / C, Green / Cycle	0.03	0.62	0.62	0.04	0.63	0.63	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.29	0.10	0.02	0.25	0.25	0.00	0.00	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1813	1615
c, Capacity [veh/h]	64	2241	1000	78	1192	1192	21	18	179	179	160
d1, Uniform Delay [s]	33.30	7.21	5.63	32.97	6.51	6.51	0.00	34.52	30.47	30.47	29.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.06	0.72	0.33	6.27	1.00	1.00	0.00	13.97	3.86	3.85	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.50	0.47	0.16	0.56	0.40	0.40	0.00	0.40	0.65	0.64	0.21
d, Delay for Lane Group [s/veh]	39.35	7.93	5.96	39.25	7.51	7.51	0.00	48.49	34.33	34.31	29.80
Lane Group LOS	D	A	A	D	A	A	A	D	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.63	3.60	0.87	0.85	3.08	3.08	0.00	0.18	2.00	2.00	0.54
50th-Percentile Queue Length [ft/ln]	15.64	90.12	21.67	21.18	77.01	77.01	0.00	4.59	50.05	50.12	13.48
95th-Percentile Queue Length [veh/ln]	1.13	6.49	1.56	1.53	5.54	5.54	0.00	0.33	3.60	3.61	0.97
95th-Percentile Queue Length [ft/ln]	28.16	162.22	39.00	38.13	138.62	138.62	0.00	8.25	90.10	90.22	24.27

**Movement, Approach, & Intersection Results**

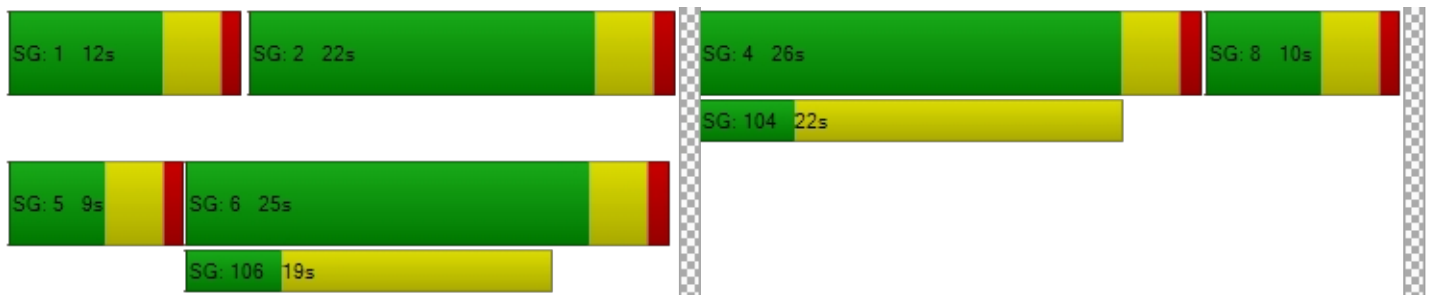
d_M, Delay for Movement [s/veh]	39.35	7.93	5.96	39.25	7.51	7.51	0.00	0.00	48.49	34.32	34.31	29.80
Movement LOS	D	A	A	D	A	A	A	A	D	C	C	C
d_A, Approach Delay [s/veh]	8.49			8.91			48.49			33.74		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	11.42											
Intersection LOS	B											
Intersection V/C	0.387											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.58			0.00			26.58		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.699			0.000			2.264		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			514			171			629		
d_b, Bicycle Delay [s]	17.15			19.31			29.26			16.46		
I_b,int, Bicycle LOS Score for Intersection	2.633			2.381			1.574			2.015		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	158	278	0	0	1003	144	0	0	0	116	0	979
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	36	0	0	0	0	0	245
Total Hourly Volume [veh/h]	158	278	0	0	1003	108	0	0	0	116	0	734
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	73	0	0	264	28	0	0	0	31	0	193
Total Analysis Volume [veh/h]	166	293	0	0	1056	114	0	0	0	122	0	773
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0					0		0
v_di, Inbound Pedestrian Volume crossing major street		0			0					0		0
v_co, Outbound Pedestrian Volume crossing minor street		0			0					0		0
v_ci, Inbound Pedestrian Volume crossing minor street		0			0					0		0
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		0
Bicycle Volume [bicycles/h]		0			0					0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Permis	Permis	Unsign	Permis	Permis	Permis	Permis	Permis	Unsign
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	11	20	0	0	9	0	0	0	0	40	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.59		0.09
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.29		0.07
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	211	2804	2141		166
d1, Uniform Delay [s]	25.83	1.66	7.08		26.60
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	6.32	0.07	0.82		6.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.79	0.10	0.49		0.73
d, Delay for Lane Group [s/veh]	32.15	1.73	7.89		32.71
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.54	0.17	3.15		1.89
50th-Percentile Queue Length [ft/ln]	63.51	4.14	78.81		47.25
95th-Percentile Queue Length [veh/ln]	4.57	0.30	5.67		3.40
95th-Percentile Queue Length [ft/ln]	114.32	7.45	141.85		85.05

**Movement, Approach, & Intersection Results**

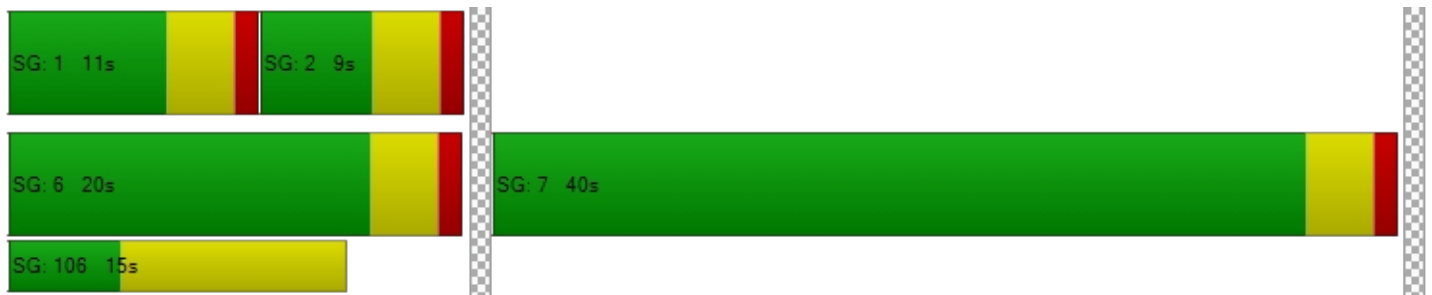
d_M, Delay for Movement [s/veh]	32.15	1.73	0.00	0.00	7.89	0.00	0.00	0.00	0.00	0.00	32.71	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	12.73			7.89			0.00			32.71			
Approach LOS	B			A			A			C			
d_I, Intersection Delay [s/veh]	11.10												
Intersection LOS	B												
Intersection V/C	0.451												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.68		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.961		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			167			0			1200		
d_b, Bicycle Delay [s]	16.13			25.21			30.00			4.80		
I_b,int, Bicycle LOS Score for Intersection	1.938			2.431			4.132			1.560		
Bicycle LOS	A			B			D			A		

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.669

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↔			↔↑↑			↔↔↔					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	301	176	664	417	0	179	0	705	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	44	0	0	0	0	0	176	0	0	0
Total Hourly Volume [veh/h]	0	301	132	664	417	0	179	0	529	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	79	35	175	110	0	47	0	139	0	0	0
Total Analysis Volume [veh/h]	0	317	139	699	439	0	188	0	557	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permis	Permis	Unsign	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	31	43	0	17	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	10	25	39	13	13	
g / C, Green / Cycle	0.17	0.41	0.65	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.39	0.12	0.10	0.19	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	607	752	2351	393	621	
d1, Uniform Delay [s]	22.83	16.74	4.20	20.57	22.90	
k, delay calibration	0.50	0.29	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.19	12.84	0.18	0.90	4.94	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.52	0.93	0.19	0.48	0.90	
d, Delay for Lane Group [s/veh]	26.02	29.59	4.37	21.48	27.84	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	2.18	10.52	0.80	2.24	3.95	
50th-Percentile Queue Length [ft/ln]	54.47	263.04	19.91	55.89	98.72	
95th-Percentile Queue Length [veh/ln]	3.92	15.84	1.43	4.02	7.11	
95th-Percentile Queue Length [ft/ln]	98.04	396.03	35.84	100.60	177.70	

**Movement, Approach, & Intersection Results**

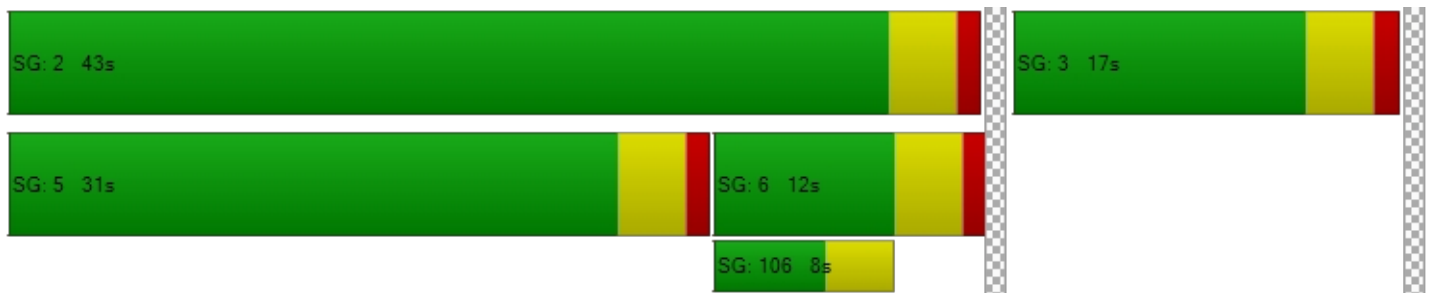
d_M, Delay for Movement [s/veh]	0.00	26.02	0.00	29.59	4.37	0.00	21.48	0.00	27.84	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	26.02		19.86			26.23			0.00			
Approach LOS	C		B			C			A			
d_I, Intersection Delay [s/veh]	22.91											
Intersection LOS	C											
Intersection V/C	0.669											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00		0.00			0.00			21.68		
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000			0.000			2.086		
Crosswalk LOS	F		F			F			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000		2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	267		1300			433			0		
d_b, Bicycle Delay [s]	22.53		3.68			18.41			30.00		
I_b,int, Bicycle LOS Score for Intersection	1.821		2.498			1.560			4.132		
Bicycle LOS	A		B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



## Bloomington Business Park Specific Plan

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Scenario 5 2040 AM

Report File: Z:\...\2040 AM.pdf

12/8/2020

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	633	801	489	972	728	1222	1074	571	413	707	7610

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	280	1249	88	550	954	307	309	271	101	49	348	350	4856

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1525	23	79	983	10	63	2683

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	134	1256	64	58	854	65	148	101	75	86	103	132	3076

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	5	3	6	13	0	12	13	442	5	8	224	10	741

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	75	320	59	9	192	7	14	154	265	96	128	25	1344

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	299	39	22	239	37	97	733

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	10	10	39	34	12	42	5	250	6	10	340	10	768

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	36	4	2	218	104	7	371

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	7	38	6	14	18	27	8	164	15	3	78	17	395

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	386	1196	1345	1012	358	5	486	4788

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1494	385	487	1257	608	4	476	4711

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	5	1489	4	80	1476	190	103	0	35	0	0	103	3485

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	99	956	12	314	988	174	205	75	54	10	117	270	3274

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	69	780	25	62	875	53	121	63	91	10	65	38	2252

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	34	759	107	92	1069	23	59	68	116	80	44	49	2500

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	28	769	1	19	1167	28	109	30	35	24	19	20	2249

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	172	713	13	27	1316	100	34	18	97	71	49	15	2625

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	640	171	295	1162	6	8	0	10	342	1	88	2727

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	66	355	417	560	782	43	34	70	49	315	117	481	3289

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	6	280	22	383	416	573	21	5	551	221	2492

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	58	773	203	38	786	0	4	31	82	101	17	22	2115

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	30	1011	197	42	904	0	0	0	9	215	5	43	2456

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	158	278	1003	144	116	979	2678

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	301	176	664	417	179	705	2442



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## Bloomington Business Park Specific Plan

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Scenario 6 2040 PM

Report File: Z:\...\2040 PM.pdf

12/9/2020

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Thru	1.054	106.8	F
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	1.671	363.0	F
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.645	6.5	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	1.113	125.5	F
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	3.362	876.2	F
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	7.437	1,938.8	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Right	1.023	10,000.0	F
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	5.371	2,519.1	F
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.248	52.1	F
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	1.372	102.7	F
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	WB Right	1.299	157.0	F
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	SB Left	1.032	83.4	F
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	1.388	209.7	F
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	1.347	195.9	F
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	EB Left	1.370	204.2	F
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	WB Left	2.674	213.6	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	NB Left	0.983	60.7	E
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	EB Right	1.133	104.2	F
19	Cedar Ave/El Rivino Rd	Signalized	HCM 6th Edition	WB Left	1.741	277.3	F
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	SB Left	1.133	122.7	F
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	EB Left	1.183	86.6	F
22	Market St/24th St	Signalized	HCM 6th Edition	SB Thru	1.132	146.5	F
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.589	16.8	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.704	14.0	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.904	48.3	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 1: Sierra Ave/I-10 Ramps**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 106.8  
 Level Of Service: F  
 Volume to Capacity (v/c): 1.054

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.0	100.00	1500.0	1200.0	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.0	0.00	0.00	1150.0
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	800	2874	1153	592	1354	882	976	0	558	523	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	288	0	0	221	0	0	140	0	0	151
Total Hourly Volume [veh/h]	800	2874	865	592	1354	661	976	0	418	523	0	454
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	211	756	228	156	356	174	257	0	110	138	0	119
Total Analysis Volume [veh/h]	842	3025	911	623	1425	696	1027	0	440	551	0	478
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		2			4			3			3	
v_ci, Inbound Pedestrian Volume crossing minor street		3			3			4			2	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	59	0	23	42	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	58	19	44	41	41
g / C, Green / Cycle	0.26	0.45	0.15	0.34	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.24	0.58	0.18	0.28	0.29	0.16
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	904	2324	515	1751	1096	1096
d1, Uniform Delay [s]	47.12	35.78	55.42	39.23	43.44	36.46
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.03	139.01	98.34	4.27	4.53	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.93	1.30	1.21	0.81	0.94	0.50
d, Delay for Lane Group [s/veh]	52.16	174.79	153.77	43.49	47.97	36.82
Lane Group LOS	D	F	F	D	D	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	13.62	53.18	15.40	14.32	15.45	6.70
50th-Percentile Queue Length [ft/ln]	340.58	1329.54	384.96	357.94	386.32	167.56
95th-Percentile Queue Length [veh/ln]	19.68	77.64	23.72	20.52	21.90	10.95
95th-Percentile Queue Length [ft/ln]	491.91	1940.98	593.03	513.08	547.49	273.71



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	52.16	174.79	0.00	153.77	43.49	0.00	47.97	0.00	0.00	36.82	0.00	0.00
Movement LOS	D	F		F	D		D			D		
d_A, Approach Delay [s/veh]	148.09			77.04			47.97			36.82		
Approach LOS	F			E			D			D		
d_I, Intersection Delay [s/veh]	106.77											
Intersection LOS	F											
Intersection V/C	1.054											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			56.31			56.31		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.130			2.885		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	846			585			677			677		
d_b, Bicycle Delay [s]	21.63			32.55			28.45			28.45		
I_b,int, Bicycle LOS Score for Intersection	3.686			2.686			1.560			1.560		
Bicycle LOS	D			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	363.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.671

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	T T T			T T T			T T T			T T T		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	3151	386	1557	1280	145	1200	1714	129	185	307	1746
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	97	0	0	36	0	0	32	0	0	437
Total Hourly Volume [veh/h]	166	3151	289	1557	1280	109	1200	1714	97	185	307	1309
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	829	76	410	337	29	316	451	26	49	81	344
Total Analysis Volume [veh/h]	175	3317	304	1639	1347	115	1263	1804	102	195	323	1378
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	12	40	0	28	56	0	22	53	0	9	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	36	36	24	52	52	18	49	49	5	36	64
g / C, Green / Cycle	0.06	0.28	0.28	0.18	0.40	0.40	0.14	0.38	0.38	0.04	0.28	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.51	0.54	0.47	0.26	0.28	0.36	0.50	0.06	0.06	0.09	0.48
s, saturation flow rate [veh/h]	3514	5176	1800	3514	3618	1826	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	217	1438	500	649	1450	732	487	1360	607	135	998	1405
d1, Uniform Delay [s]	60.24	46.94	46.94	53.00	31.75	32.22	56.00	40.57	27.02	62.50	37.42	32.47
k, delay calibration	0.11	0.50	0.50	0.46	0.50	0.50	0.29	0.21	0.11	0.11	0.11	0.36
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.00	382.81	428.74	690.94	2.38	5.22	721.18	149.23	0.13	206.67	0.19	16.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.81	1.84	1.94	2.53	0.66	0.69	2.59	1.33	0.17	1.44	0.32	0.98
d, Delay for Lane Group [s/veh]	67.24	429.75	475.69	743.94	34.13	37.44	777.18	189.79	27.15	269.17	37.60	48.91
Lane Group LOS	E	F	F	F	C	D	F	F	C	F	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.98	65.77	75.01	72.65	12.42	13.79	56.53	48.84	2.09	6.07	3.99	22.58
50th-Percentile Queue Length [ft/ln]	74.55	1644.1	1875.3	1816.2	310.52	344.73	1413.3	1220.9	52.14	151.70	99.68	564.39
95th-Percentile Queue Length [veh/ln]	5.37	102.80	117.31	113.41	18.20	19.88	87.94	71.76	3.75	10.92	7.18	30.37
95th-Percentile Queue Length [ft/ln]	134.18	2569.9	2932.7	2835.2	455.01	496.98	2198.4	1794.0	93.85	273.07	179.42	759.19

**Movement, Approach, & Intersection Results**

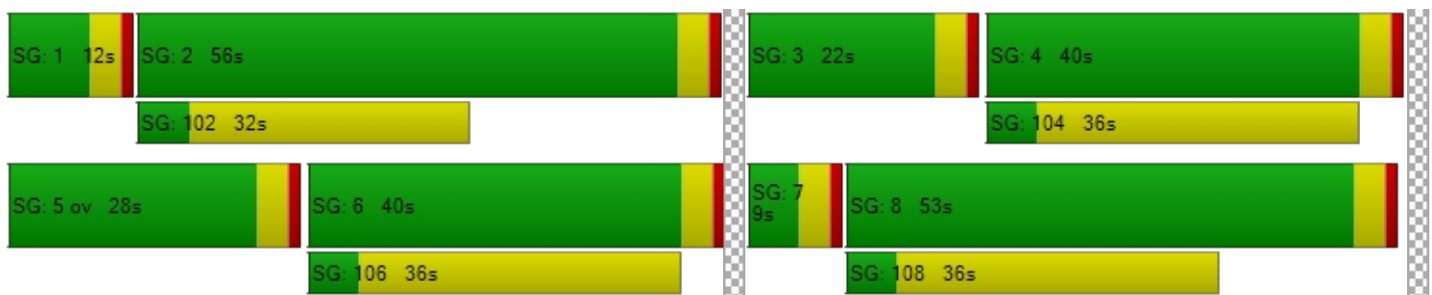
d_M, Delay for Movement [s/veh]	67.24	438.95	475.69	743.94	35.08	37.44	777.18	189.79	27.15	269.17	37.60	48.91
Movement LOS	E	F	F	F	D	D	F	F	C	F	D	D
d_A, Approach Delay [s/veh]	424.76			409.83			418.66			69.64		
Approach LOS	F			F			F			E		
d_I, Intersection Delay [s/veh]	362.99											
Intersection LOS	F											
Intersection V/C	1.671											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	4.012	4.296	3.494	4.605
Crosswalk LOS	D	E	C	E
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	800	754	554
d_b, Bicycle Delay [s]	33.98	23.40	25.23	33.98
I_b,int, Bicycle LOS Score for Intersection	3.165	3.285	4.200	3.484
Bicycle LOS	C	C	D	C

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	6.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑↑↱		↱↱↑↑↑		↱↱	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	2874	25	59	1592	15	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	22
Total Hourly Volume [veh/h]	2874	19	59	1592	15	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	756	5	16	419	4	17
Total Analysis Volume [veh/h]	3025	20	62	1676	16	69
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0		0	
v_di, Inbound Pedestrian Volume crossing major street	0		0		0	
v_co, Outbound Pedestrian Volume crossing minor street	0		0		0	
v_ci, Inbound Pedestrian Volume crossing minor street	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	32	88	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	97	97	4	105	7	7
g / C, Green / Cycle	0.81	0.81	0.04	0.88	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.58	0.01	0.02	0.32	0.01	0.04
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4172	1302	129	4535	103	92
d1, Uniform Delay [s]	5.43	2.29	56.65	1.36	53.80	55.70
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.13	0.02	2.74	0.23	0.69	11.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.73	0.02	0.48	0.37	0.15	0.75
d, Delay for Lane Group [s/veh]	6.56	2.31	59.39	1.59	54.48	67.05
Lane Group LOS	A	A	E	A	D	E
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.90	0.06	0.97	1.12	0.48	2.35
50th-Percentile Queue Length [ft/ln]	172.38	1.54	24.29	28.05	12.01	58.70
95th-Percentile Queue Length [veh/ln]	11.20	0.11	1.75	2.02	0.86	4.23
95th-Percentile Queue Length [ft/ln]	280.04	2.78	43.71	50.49	21.62	105.67

**Movement, Approach, & Intersection Results**

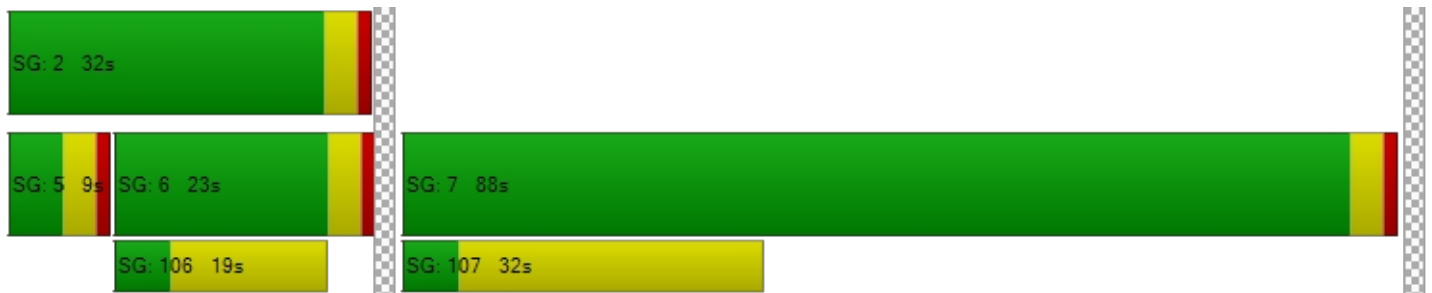
d_M, Delay for Movement [s/veh]	6.56	2.31	59.39	1.59	54.48	67.05
Movement LOS	A	A	E	A	D	E
d_A, Approach Delay [s/veh]	6.53		3.65		64.68	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	6.52					
Intersection LOS	A					
Intersection V/C	0.645					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	51.34
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.332	2.225
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	317	467	1400
d_b, Bicycle Delay [s]	42.50	35.27	5.40
I_b,int, Bicycle LOS Score for Intersection	3.238	2.516	1.560
Bicycle LOS	C	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	125.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.113

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	237	2460	480	534	1242	97	218	1123	221	218	156	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	120	0	0	24	0	0	55	0	0	42
Total Hourly Volume [veh/h]	237	2460	360	534	1242	73	218	1123	166	218	156	127
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	647	95	141	327	19	57	296	44	57	41	33
Total Analysis Volume [veh/h]	249	2589	379	562	1307	77	229	1182	175	229	164	134
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	53	0	20	58	0	21	40	0	17	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	49	49	16	54	54	17	36	36	13	32	32
g / C, Green / Cycle	0.08	0.38	0.38	0.12	0.42	0.42	0.13	0.28	0.28	0.10	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.50	0.23	0.16	0.25	0.25	0.13	0.33	0.11	0.13	0.05	0.08
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1846	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	298	1956	610	433	1506	769	237	998	446	181	887	396
d1, Uniform Delay [s]	58.61	40.44	32.87	57.00	29.64	29.68	56.22	47.07	38.23	58.50	38.80	40.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.12	0.15	0.11	0.12	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.18	149.37	4.70	138.30	1.83	3.58	21.69	86.44	0.56	129.54	0.10	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.84	1.32	0.62	1.30	0.61	0.61	0.97	1.18	0.39	1.26	0.18	0.34
d, Delay for Lane Group [s/veh]	64.79	189.81	37.58	195.29	31.48	33.26	77.91	133.51	38.79	188.04	38.90	40.90
Lane Group LOS	E	F	D	F	C	C	E	F	D	F	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.30	47.59	10.50	15.41	11.54	12.20	8.90	28.00	4.63	12.47	2.10	3.61
50th-Percentile Queue Length [ft/ln]	107.45	1189.6	262.56	385.30	288.50	305.05	222.49	699.98	115.81	311.84	52.61	90.36
95th-Percentile Queue Length [veh/ln]	7.70	70.01	15.82	24.20	17.11	17.93	13.79	40.49	8.16	19.89	3.79	6.51
95th-Percentile Queue Length [ft/ln]	192.45	1750.2	395.43	604.93	427.77	448.27	344.80	1012.3	204.06	497.17	94.70	162.66

**Movement, Approach, & Intersection Results**

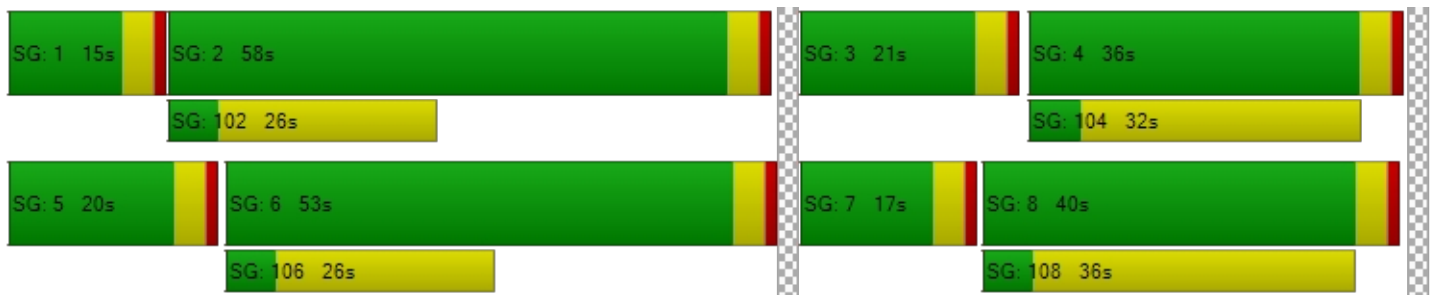
d_M, Delay for Movement [s/veh]	64.79	189.81	37.58	195.29	32.01	33.26	77.91	133.51	38.79	188.04	38.90	40.90
Movement LOS	E	F	D	F	C	C	E	F	D	F	D	D
d_A, Approach Delay [s/veh]	162.20			79.22			115.03			104.21		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	125.52											
Intersection LOS	F											
Intersection V/C	1.113											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	3.592	3.384	2.900	2.989
Crosswalk LOS	D	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	754	831	554	492
d_b, Bicycle Delay [s]	25.23	22.22	33.98	36.94
I_b,int, Bicycle LOS Score for Intersection	3.395	2.643	2.913	2.029
Bicycle LOS	C	B	C	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	876.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.362

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	16	58	7	34	23	2287	13	9	394	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	9	16	58	7	34	23	2287	13	9	394	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	4	15	2	9	6	602	3	2	104	4
Total Analysis Volume [veh/h]	1	9	17	61	7	36	24	2407	14	9	415	18
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	548	550	2445	690
Degree of Utilization, x	0.05	0.19	3.36	0.64

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.16	0.69	218.91	4.64
95th-Percentile Queue Length [ft]	3.88	17.30	5472.66	116.12
Approach Delay [s/veh]	9.91	11.08	1077.83	17.02
Approach LOS	A	B	F	C
Intersection Delay [s/veh]	876.16			
Intersection LOS	F			

**Intersection Level Of Service Report**  
**Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	1,938.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	7.437

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	143	897	165	51	704	17	75	1555	1212	58	195	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	897	165	51	704	17	75	1555	1212	58	195	56
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	236	43	13	185	4	20	409	319	15	51	15
Total Analysis Volume [veh/h]	151	944	174	54	741	18	79	1637	1276	61	205	59
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	1269	813	2992	379
Degree of Utilization, x	3.22	2.08	7.44	0.86

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	113.58	57.96	327.14	8.16
95th-Percentile Queue Length [ft]	2839.45	1449.01	8178.48	203.99
Approach Delay [s/veh]	1024.98	514.06	2918.81	48.85
Approach LOS	F	F	F	E
Intersection Delay [s/veh]	1938.80			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.023

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name						
Base Volume Input [veh/h]	784	154	1030	655	40	328
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	784	154	1030	655	40	328
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	206	41	271	172	11	86
Total Analysis Volume [veh/h]	825	162	1084	689	42	345
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	1.53	0.01	0.00	1.02
d_M, Delay for Movement [s/veh]	0.00	0.00	262.80	0.00	10000.00	10000.00
Movement LOS	A	A	F	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	54.45	54.45	51.21	51.21
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1361.25	1361.25	1280.22	1280.22
d_A, Approach Delay [s/veh]	0.00		160.68		10000.00	
Approach LOS	A		F		F	
d_I, Intersection Delay [s/veh]	1320.27					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	2,519.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	5.371

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	80	8	11	13	16	98	141	734	47	13	780	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	8	11	13	16	98	141	734	47	13	780	22
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	2	3	3	4	26	37	193	12	3	205	6
Total Analysis Volume [veh/h]	84	8	12	14	17	103	148	773	49	14	821	23
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	5.37	0.20	0.03	0.49	0.43	0.28	0.18	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	2519.1	2377.8	2298.1	313.85	278.35	197.37	10.51	0.00	0.00	9.49	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	13.56	13.56	13.56	8.59	8.59	8.59	0.67	0.67	0.67	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	338.89	338.89	338.89	214.77	214.77	214.77	16.86	16.86	16.86	1.31	1.31	1.31
d_A, Approach Delay [s/veh]	2482.74			219.82			1.60			0.15		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	140.05											
Intersection LOS	F											



**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type: Two-way stop  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 52.1  
 Level Of Service: F  
 Volume to Capacity (v/c): 0.248

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↔		↕		↔	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	23	8	13	1245	343	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	8	13	1245	343	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	2	3	328	90	4
Total Analysis Volume [veh/h]	24	8	14	1311	361	15
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.25	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	52.06	20.20	8.05	0.00	0.00	0.00
Movement LOS	F	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.97	0.97	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	24.21	24.21	0.89	0.89	0.00	0.00
d_A, Approach Delay [s/veh]	44.10		0.09		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	0.88					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type: All-way stop  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 102.7  
 Level Of Service: F  
 Volume to Capacity (v/c): 1.372

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	59	31	10	38	61	70	85	673	169	8	304	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	31	10	38	61	70	85	673	169	8	304	52
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	8	3	10	16	18	22	177	44	2	80	14
Total Analysis Volume [veh/h]	62	33	11	40	64	74	89	708	178	8	320	55
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	501	537	797	663	549	616
Degree of Utilization, x	0.21	0.33	1.37	0.27	0.60	0.09

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.79	1.44	35.43	1.08	3.90	0.29
95th-Percentile Queue Length [ft]	19.83	35.96	885.79	27.03	97.55	7.33
Approach Delay [s/veh]	12.11	12.97	162.51		17.17	
Approach LOS	B	B	F		C	
Intersection Delay [s/veh]	102.69					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	157.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.299

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	498	2952	0	0	1459	637	0	0	0	585	7	1013
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	159	0	0	0	0	0	253
Total Hourly Volume [veh/h]	498	2952	0	0	1459	478	0	0	0	585	7	760
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	131	777	0	0	384	126	0	0	0	154	2	200
Total Analysis Volume [veh/h]	524	3107	0	0	1536	503	0	0	0	616	7	800
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0				0			0
v_di, Inbound Pedestrian Volume crossing major street		0			0				0			0
v_co, Outbound Pedestrian Volume crossing minor street		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing minor street		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	33	74	0	0	41	0	0	0	0	0	41	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	115	115	115	115		115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	29	70	37	37		37	37
g / C, Green / Cycle	0.25	0.61	0.32	0.32		0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.31	0.86	0.30	0.31		0.40	0.44
s, saturation flow rate [veh/h]	1714	3618	5176	1615		1784	1615
c, Capacity [veh/h]	433	2202	1665	520		574	519
d1, Uniform Delay [s]	42.97	22.48	37.60	38.41		38.99	38.99
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	114.89	187.59	10.01	32.35		122.48	178.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.21	1.41	0.92	0.97		1.24	1.37
d, Delay for Lane Group [s/veh]	157.86	210.07	47.61	70.75		161.47	217.42
Lane Group LOS	F	F	D	E		F	F
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	25.95	84.44	15.21	18.39		35.39	40.12
50th-Percentile Queue Length [ft/ln]	648.78	2110.95	380.37	459.66		884.85	1003.01
95th-Percentile Queue Length [veh/ln]	38.14	126.64	21.61	25.42		51.43	60.26
95th-Percentile Queue Length [ft/ln]	953.59	3165.96	540.29	635.46		1285.71	1506.38



**Movement, Approach, & Intersection Results**

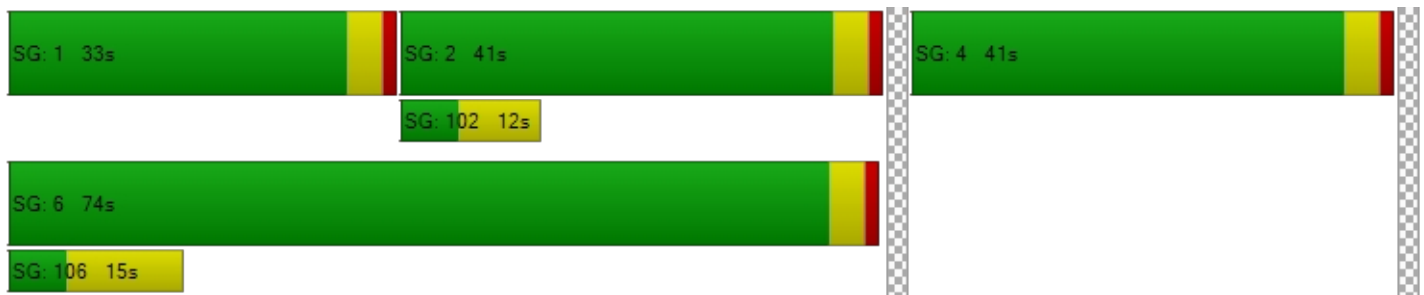
d_M, Delay for Movement [s/veh]	157.86	210.07	0.00	0.00	47.61	70.75	0.00	0.00	0.00	161.47	161.47	211.23
Movement LOS	F	F			D	E				F	F	F
d_A, Approach Delay [s/veh]	202.54		53.32			0.00			189.45			
Approach LOS	F		D			A			F			
d_I, Intersection Delay [s/veh]	157.02											
Intersection LOS	F											
Intersection V/C	1.299											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		48.85		48.85	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.310		2.858	
Crosswalk LOS	F		F		B		C	
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1217		643		0		643	
d_b, Bicycle Delay [s]	8.80		26.45		57.50		26.45	
I_b,int, Bicycle LOS Score for Intersection	4.555		2.769		4.132		4.325	
Bicycle LOS	E		C		D		E	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	83.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.032

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	r			r			r+					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.0
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	2436	524	489	1591	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	131	0	0	0	0	0	59	0	0	0
Total Hourly Volume [veh/h]	0	2436	393	489	1591	0	582	2	178	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	641	103	129	419	0	153	1	47	0	0	0
Total Analysis Volume [veh/h]	0	2564	414	515	1675	0	613	2	187	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	50	0	33	83	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	110	110	110	110	110	110	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	46	46	29	79	23	23	
g / C, Green / Cycle	0.42	0.42	0.26	0.72	0.21	0.21	
(v / s)_i Volume / Saturation Flow Rate	0.50	0.26	0.30	0.46	0.23	0.24	
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1715	
c, Capacity [veh/h]	2162	675	452	2597	359	359	
d1, Uniform Delay [s]	32.02	25.07	40.48	8.15	43.47	43.47	
k, delay calibration	0.50	0.50	0.50	0.50	0.34	0.35	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	88.68	4.14	86.23	1.25	71.02	80.43	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.19	0.61	1.14	0.64	1.10	1.13	
d, Delay for Lane Group [s/veh]	120.69	29.21	126.71	9.40	114.49	123.91	
Lane Group LOS	F	C	F	A	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	36.19	9.07	22.87	9.39	16.74	17.68	
50th-Percentile Queue Length [ft/ln]	904.79	226.74	571.83	234.71	418.52	442.09	
95th-Percentile Queue Length [veh/ln]	51.75	14.01	33.13	14.41	24.73	26.20	
95th-Percentile Queue Length [ft/ln]	1293.79	350.21	828.32	360.34	618.20	655.06	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	120.69	29.21	126.71	9.40	0.00	117.79	123.91	123.91	0.00	0.00	0.00
Movement LOS		F	C	F	A		F	F	F			
d_A, Approach Delay [s/veh]	107.98			36.99			119.25			0.00		
Approach LOS	F			D			F			A		
d_I, Intersection Delay [s/veh]	83.45											
Intersection LOS	F											
Intersection V/C	1.032											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			46.37			46.37		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.315			2.244		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	836			1436			418			0		
d_b, Bicycle Delay [s]	18.62			4.37			34.40			55.00		
I_b,int, Bicycle LOS Score for Intersection	3.270			3.366			2.980			4.132		
Bicycle LOS	C			C			C			D		

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	209.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.388

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	2673	2	39	1568	234	795	11	83	1	2	121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	59	0	0	21	0	0	30
Total Hourly Volume [veh/h]	1	2673	1	39	1568	175	795	11	62	1	2	91
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	703	0	10	413	46	209	3	16	0	1	24
Total Analysis Volume [veh/h]	1	2814	1	41	1651	184	837	12	65	1	2	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	170
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	41	84	0	9	52	0	0	77	0	0	77	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	170	170	170	170	170	170	170	170	170
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	89	81	81	89	85	85	73	73	73
g / C, Green / Cycle	0.52	0.48	0.48	0.52	0.50	0.50	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.00	0.74	0.74	0.19	0.46	0.11	0.64	0.05	0.06
s, saturation flow rate [veh/h]	343	1900	1900	211	3618	1615	1318	1654	1621
c, Capacity [veh/h]	114	903	903	127	1806	806	541	709	717
d1, Uniform Delay [s]	34.02	44.59	44.59	39.87	39.21	24.06	51.82	29.08	29.53
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	256.63	256.72	6.63	8.67	0.66	255.88	0.07	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	1.56	1.56	0.32	0.91	0.23	1.55	0.11	0.14
d, Delay for Lane Group [s/veh]	34.05	301.22	301.31	46.51	47.88	24.72	307.70	29.15	29.62
Lane Group LOS	C	F	F	D	D	C	F	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.02	102.11	102.11	1.06	33.73	4.46	61.76	1.96	2.56
50th-Percentile Queue Length [ft/ln]	0.51	2552.6	2552.8	26.43	843.13	111.55	1543.94	48.93	63.89
95th-Percentile Queue Length [veh/ln]	0.04	154.97	154.99	1.90	43.25	7.93	95.67	3.52	4.60
95th-Percentile Queue Length [ft/ln]	0.93	3874.2	3874.7	47.57	1081.2	198.16	2391.72	88.08	115.00

**Movement, Approach, & Intersection Results**

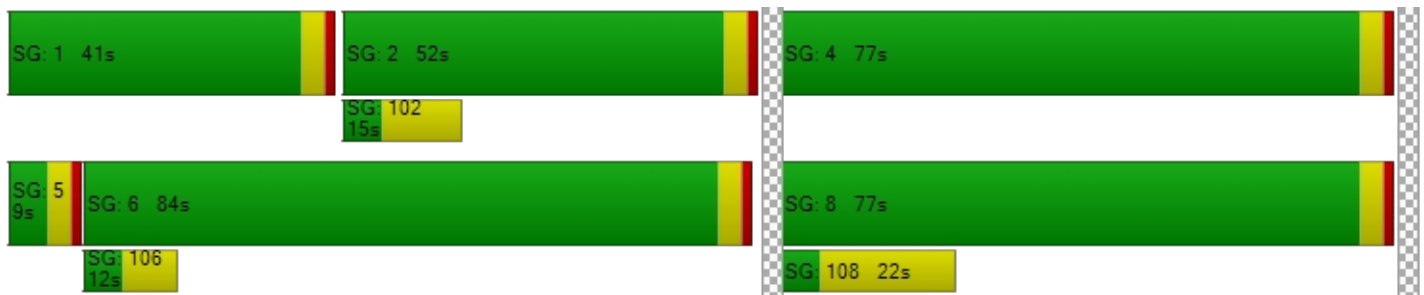
d_M, Delay for Movement [s/veh]	34.05	301.27	301.31	46.51	47.88	24.72	307.70	29.15	29.15	29.62	29.62	29.62
Movement LOS	C	F	F	D	D	C	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	301.17			45.58			284.23			29.62		
Approach LOS	F			D			F			C		
d_I, Intersection Delay [s/veh]	209.70											
Intersection LOS	F											
Intersection V/C	1.388											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	76.24	0.00	76.24	76.24
I_p,int, Pedestrian LOS Score for Intersection	3.222	0.000	2.386	1.907
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	565	859	859
d_b, Bicycle Delay [s]	23.82	43.78	27.67	27.67
I_b,int, Bicycle LOS Score for Intersection	3.884	3.156	3.102	1.772
Bicycle LOS	D	C	C	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	195.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.347

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	1800	66	575	966	151	396	571	124	27	204	478
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	38	0	0	31	0	0	120
Total Hourly Volume [veh/h]	82	1800	49	575	966	113	396	571	93	27	204	358
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	474	13	151	254	30	104	150	24	7	54	94
Total Analysis Volume [veh/h]	86	1895	52	605	1017	119	417	601	98	28	215	377
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	175
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	64	0	46	95	0	33	56	0	9	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	175	175	175	175	175	175	175	175	175	175	175	175
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	60	60	42	91	91	29	53	53	4	28	28
g / C, Green / Cycle	0.06	0.34	0.34	0.24	0.52	0.52	0.17	0.30	0.30	0.02	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.05	0.51	0.52	0.35	0.30	0.31	0.24	0.17	0.06	0.02	0.11	0.23
s, saturation flow rate [veh/h]	1714	1900	1882	1714	1900	1832	1714	3618	1615	1714	1900	1615
c, Capacity [veh/h]	103	652	646	410	993	957	284	1100	491	37	304	258
d1, Uniform Delay [s]	81.29	57.42	57.42	66.50	28.53	28.82	72.92	50.77	45.07	85.04	69.56	73.44
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.20	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.57	229.81	236.08	226.32	2.44	2.66	228.19	0.42	0.20	25.43	5.51	226.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.83	1.49	1.51	1.47	0.58	0.59	1.47	0.55	0.20	0.75	0.71	1.46
d, Delay for Lane Group [s/veh]	96.86	287.23	293.50	292.81	30.97	31.48	301.11	51.20	45.27	110.47	75.07	300.13
Lane Group LOS	F	F	F	F	C	C	F	D	D	F	E	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.32	70.46	70.93	44.17	17.29	17.26	30.86	11.21	3.25	1.54	9.66	27.94
50th-Percentile Queue Length [ft/ln]	108.00	1761.5	1773.2	1104.2	432.34	431.58	771.51	280.20	81.32	38.38	241.53	698.52
95th-Percentile Queue Length [veh/ln]	7.73	105.19	106.19	66.49	24.11	24.08	46.96	16.70	5.86	2.76	14.76	42.80
95th-Percentile Queue Length [ft/ln]	193.22	2629.8	2654.8	1662.1	602.85	601.93	1174.0	417.46	146.38	69.08	368.97	1070.0

**Movement, Approach, & Intersection Results**

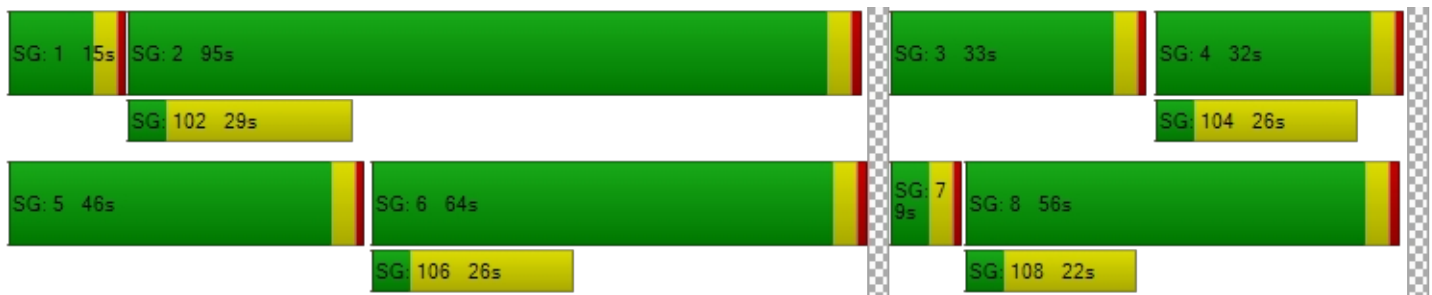
d_M, Delay for Movement [s/veh]	96.86	290.28	293.50	292.81	31.19	31.48	301.11	51.20	45.27	110.47	75.07	300.13
Movement LOS	F	F	F	F	C	C	F	D	D	F	E	F
d_A, Approach Delay [s/veh]	282.18			122.12			144.06			213.52		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	195.90											
Intersection LOS	F											
Intersection V/C	1.347											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	78.73	78.73	78.73	78.73
I_p,int, Pedestrian LOS Score for Intersection	2.985	3.285	2.894	2.983
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	1040	594	320
d_b, Bicycle Delay [s]	37.79	20.16	43.23	61.74
I_b,int, Bicycle LOS Score for Intersection	3.251	3.027	2.506	2.170
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	204.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.370

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	139	1248	32	76	779	78	598	375	446	26	131	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	20	0	0	112	0	0	17
Total Hourly Volume [veh/h]	139	1248	24	76	779	58	598	375	334	26	131	51
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	328	6	20	205	15	157	99	88	7	34	13
Total Analysis Volume [veh/h]	146	1314	25	80	820	61	629	395	352	27	138	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	42	0	10	38	0	0	98	0	0	98	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	150	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	38	38	6	34	34	94	94
g / C, Green / Cycle	0.07	0.25	0.25	0.04	0.23	0.23	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.09	0.35	0.35	0.05	0.23	0.23	0.97	0.13
s, saturation flow rate [veh/h]	1714	1900	1888	1714	1900	1854	1420	1682
c, Capacity [veh/h]	114	483	479	69	432	422	924	1080
d1, Uniform Delay [s]	70.00	55.95	55.95	72.00	57.95	57.95	30.83	11.93
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	138.88	188.15	189.32	103.59	51.85	52.38	226.13	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.28	1.39	1.39	1.17	1.03	1.03	1.49	0.20
d, Delay for Lane Group [s/veh]	208.87	244.10	245.27	175.59	109.80	110.33	256.96	12.02
Lane Group LOS	F	F	F	F	F	F	F	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.82	43.48	43.35	4.63	22.61	22.13	91.71	3.07
50th-Percentile Queue Length [ft/ln]	220.47	1086.8	1083.6	115.64	565.36	553.27	2292.72	76.81
95th-Percentile Queue Length [veh/ln]	14.73	64.41	64.28	8.33	31.00	30.42	140.57	5.53
95th-Percentile Queue Length [ft/ln]	368.17	1610.3	1607.0	208.15	774.96	760.47	3514.25	138.26

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	208.87	244.67	245.27	175.59	110.04	110.33	256.96	256.96	256.96	12.02	12.02	12.02
Movement LOS	F	F	F	F	F	F	F	F	F	B	B	B
d_A, Approach Delay [s/veh]	241.16			115.52			256.96			12.02		
Approach LOS	F			F			F			B		
d_I, Intersection Delay [s/veh]	204.24											
Intersection LOS	F											
Intersection V/C	1.370											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27	66.27
I_p,int, Pedestrian LOS Score for Intersection	2.922	3.833	2.803	2.248
Crosswalk LOS	C	D	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	507	453	1253	1253
d_b, Bicycle Delay [s]	41.81	44.85	10.45	10.45
I_b,int, Bicycle LOS Score for Intersection	2.791	2.369	4.015	1.949
Bicycle LOS	C	B	D	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	213.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.674

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	282	1356	249	135	1241	47	39	329	201	125	81	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	62	0	0	12	0	0	50	0	0	19
Total Hourly Volume [veh/h]	282	1356	187	135	1241	35	39	329	151	125	81	57
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	357	49	36	327	9	10	87	40	33	21	15
Total Analysis Volume [veh/h]	297	1427	197	142	1306	37	41	346	159	132	85	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	21	0	9	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	17	17	5	15	15	26	26	26	26
g / C, Green / Cycle	0.12	0.28	0.28	0.08	0.25	0.25	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.17	0.43	0.45	0.08	0.35	0.36	0.47	0.10	2.15	0.04
s, saturation flow rate [veh/h]	1714	1900	1822	1714	1900	1882	825	1615	101	1615
c, Capacity [veh/h]	202	540	518	145	477	472	422	697	140	697
d1, Uniform Delay [s]	26.54	21.53	21.53	27.48	22.53	22.53	16.93	10.78	22.72	10.09
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.41	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	217.44	237.04	264.29	29.65	197.84	199.59	23.43	0.16	280.07	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.47	1.51	1.57	0.98	1.41	1.42	0.92	0.23	1.55	0.09
d, Delay for Lane Group [s/veh]	243.98	258.57	285.82	57.13	220.37	222.12	40.36	10.94	302.79	10.14
Lane Group LOS	F	F	F	E	F	F	D	B	F	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	14.92	42.39	44.57	3.12	32.34	32.26	6.54	1.19	12.82	0.42
50th-Percentile Queue Length [ft/ln]	372.88	1059.7	1114.1	77.92	808.59	806.52	163.62	29.84	320.38	10.52
95th-Percentile Queue Length [veh/ln]	24.28	65.09	68.99	5.61	49.45	49.38	10.74	2.15	23.07	0.76
95th-Percentile Queue Length [ft/ln]	606.92	1627.3	1724.7	140.25	1236.1	1234.4	268.51	53.71	576.68	18.93

**Movement, Approach, & Intersection Results**

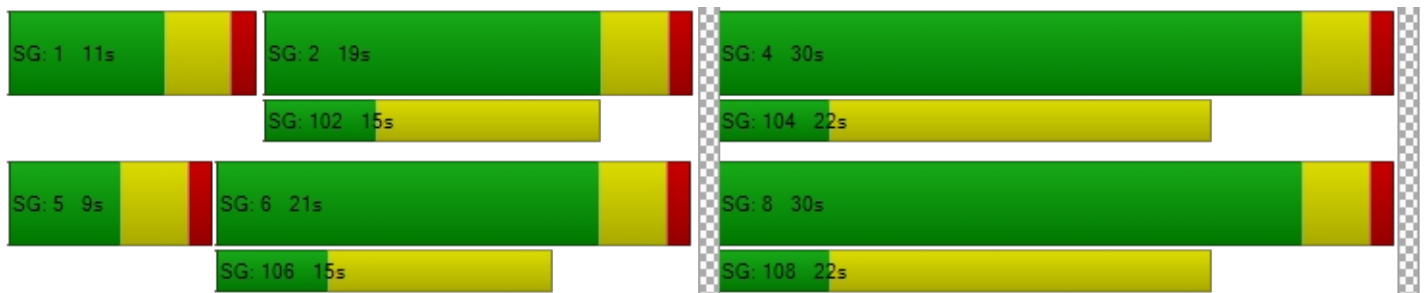
d_M, Delay for Movement [s/veh]	243.98	270.30	285.82	57.13	221.22	222.12	40.36	40.36	10.94	302.79	302.79	10.14
Movement LOS	F	F	F	E	F	F	D	D	B	F	F	B
d_A, Approach Delay [s/veh]	267.82			205.55			31.79			239.40		
Approach LOS	F			F			C			F		
d_I, Intersection Delay [s/veh]	213.62											
Intersection LOS	F											
Intersection V/C	2.674											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	3.264	2.949	2.326	2.287
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	500	867	867
d_b, Bicycle Delay [s]	15.41	16.88	9.63	9.63
I_b,int, Bicycle LOS Score for Intersection	3.196	2.795	2.543	2.048
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type: Signalized  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 60.7  
 Level Of Service: E  
 Volume to Capacity (v/c): 0.983

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	549	1796	20	73	1316	239	168	74	96	18	45	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	60	0	0	24	0	0	4
Total Hourly Volume [veh/h]	549	1796	15	73	1316	179	168	74	72	18	45	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	473	4	19	346	47	44	19	19	5	12	3
Total Analysis Volume [veh/h]	578	1891	16	77	1385	188	177	78	76	19	47	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	40	79	0	10	49	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	75	75	6	45	45	22	22
g / C, Green / Cycle	0.31	0.65	0.65	0.05	0.39	0.39	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.34	0.50	0.50	0.04	0.42	0.43	0.22	0.05
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1822	1510	1658
c, Capacity [veh/h]	536	1237	1233	91	743	713	338	357
d1, Uniform Delay [s]	39.49	14.06	14.10	53.97	35.00	35.00	47.88	39.21
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.33	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	61.37	4.68	4.76	18.72	53.41	61.48	35.46	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.08	0.77	0.77	0.85	1.07	1.09	0.98	0.22
d, Delay for Lane Group [s/veh]	100.86	18.74	18.85	72.68	88.41	96.48	83.34	39.51
Lane Group LOS	F	B	B	E	F	F	F	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	24.02	17.39	17.46	2.68	31.23	31.55	12.94	1.90
50th-Percentile Queue Length [ft/ln]	600.60	434.72	436.38	66.98	780.65	788.66	323.54	47.45
95th-Percentile Queue Length [veh/ln]	33.65	24.23	24.31	4.82	42.42	43.38	18.84	3.42
95th-Percentile Queue Length [ft/ln]	841.26	605.69	607.68	120.56	1060.4	1084.4	471.04	85.42

**Movement, Approach, & Intersection Results**

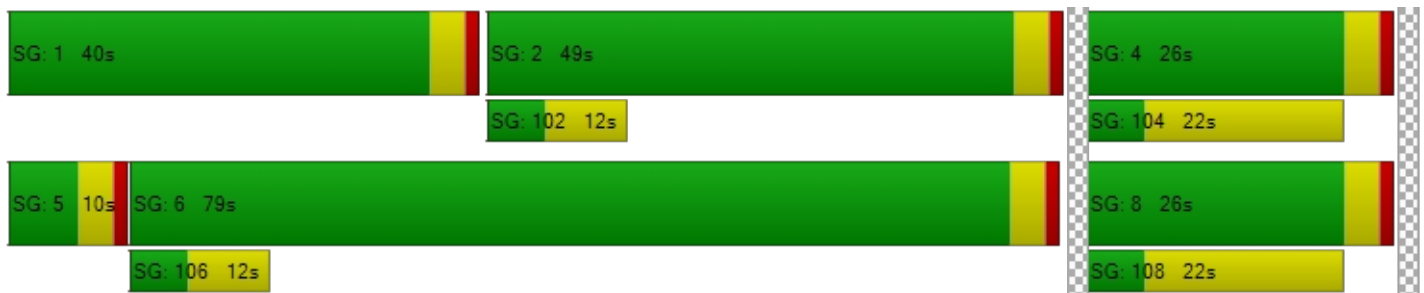
d_M, Delay for Movement [s/veh]	100.86	18.80	18.85	72.68	91.85	96.48	83.34	83.34	83.34	39.51	39.51	39.51
Movement LOS	F	B	B	E	F	F	F	F	F	D	D	D
d_A, Approach Delay [s/veh]	37.88			91.48			83.34			39.51		
Approach LOS	D			F			F			D		
d_I, Intersection Delay [s/veh]	60.69											
Intersection LOS	E											
Intersection V/C	0.983											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	48.85			48.85			48.85			48.85		
I_p,int, Pedestrian LOS Score for Intersection	3.126			3.390			2.361			1.860		
Crosswalk LOS	C			C			B			A		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1304			783			383			383		
d_b, Bicycle Delay [s]	6.96			21.30			37.60			37.60		
I_b,int, Bicycle LOS Score for Intersection	3.614			2.970			2.145			1.695		
Bicycle LOS	D			C			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	104.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.133

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	630	1853	14	52	1323	78	109	22	566	29	22	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	20	0	0	142	0	0	4
Total Hourly Volume [veh/h]	630	1853	10	52	1323	58	109	22	424	29	22	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	488	3	14	348	15	29	6	112	8	6	3
Total Analysis Volume [veh/h]	663	1951	11	55	1393	61	115	23	446	31	23	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	40	71	0	9	40	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	67	67	5	36	36	31	31
g / C, Green / Cycle	0.31	0.59	0.59	0.04	0.31	0.31	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.39	0.52	0.52	0.03	0.38	0.39	0.36	0.08
s, saturation flow rate [veh/h]	1714	1900	1896	1714	1900	1872	1621	856
c, Capacity [veh/h]	536	1111	1109	71	595	586	475	276
d1, Uniform Delay [s]	39.49	20.50	20.54	54.58	39.48	39.48	42.90	31.96
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	121.52	10.25	10.39	16.42	117.18	119.63	121.14	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.24	0.88	0.88	0.78	1.23	1.23	1.23	0.25
d, Delay for Lane Group [s/veh]	161.00	30.75	30.94	71.00	156.66	159.11	164.04	32.42
Lane Group LOS	F	C	C	E	F	F	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	32.99	24.19	24.27	1.90	35.86	35.73	29.68	1.49
50th-Percentile Queue Length [ft/ln]	824.67	604.79	606.87	47.49	896.41	893.24	742.06	37.29
95th-Percentile Queue Length [veh/ln]	48.12	32.26	32.36	3.42	51.74	51.69	43.43	2.68
95th-Percentile Queue Length [ft/ln]	1202.9	806.45	808.88	85.48	1293.4	1292.1	1085.65	67.12

**Movement, Approach, & Intersection Results**

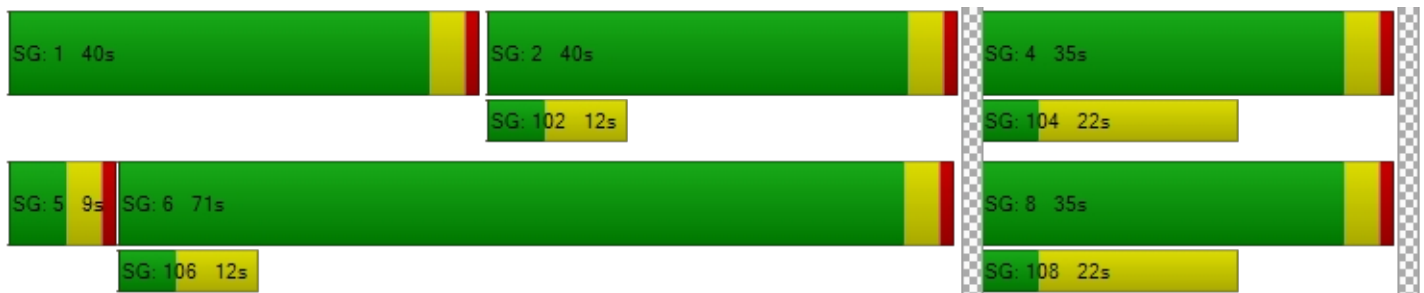
d_M, Delay for Movement [s/veh]	161.00	30.84	30.94	71.00	157.83	159.11	164.04	164.04	164.04	32.42	32.42	32.42
Movement LOS	F	C	C	E	F	F	F	F	F	C	C	C
d_A, Approach Delay [s/veh]	63.72			154.71			164.04			32.42		
Approach LOS	E			F			F			C		
d_I, Intersection Delay [s/veh]	104.20											
Intersection LOS	F											
Intersection V/C	1.133											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	48.85			48.85			48.85			48.85		
I_p,int, Pedestrian LOS Score for Intersection	3.268			3.210			2.658			1.814		
Crosswalk LOS	C			C			B			A		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1165			626			539			539		
d_b, Bicycle Delay [s]	10.02			27.13			30.68			30.68		
I_b,int, Bicycle LOS Score for Intersection	3.729			2.821			2.758			1.678		
Bicycle LOS	D			C			C			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	277.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.741

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	1556	399	408	941	9	13	9	5	880	17	1001
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	100	0	0	2	0	0	1	0	0	250
Total Hourly Volume [veh/h]	9	1556	299	408	941	7	13	9	4	880	17	751
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	409	79	107	248	2	3	2	1	232	4	198
Total Analysis Volume [veh/h]	9	1638	315	429	991	7	14	9	4	926	18	791
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	36	37	0	20	21	0	0	53	0	0	53	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	33	33	16	48	48	49	49	49
g / C, Green / Cycle	0.01	0.30	0.30	0.15	0.43	0.43	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.01	0.51	0.54	0.25	0.26	0.26	0.38	0.95	0.49
s, saturation flow rate [veh/h]	1714	1900	1798	1714	1900	1895	71	996	1615
c, Capacity [veh/h]	20	571	540	250	826	824	81	507	717
d1, Uniform Delay [s]	53.96	38.45	38.45	46.96	23.84	23.84	27.28	33.72	30.56
k, delay calibration	0.11	0.50	0.50	0.39	0.50	0.50	0.36	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.13	326.75	370.43	334.31	3.27	3.29	7.75	394.76	65.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.44	1.71	1.81	1.71	0.60	0.61	0.33	1.86	1.10
d, Delay for Lane Group [s/veh]	68.10	365.20	408.89	381.26	27.11	27.13	35.03	428.48	95.76
Lane Group LOS	E	F	F	F	C	C	D	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	66.94	69.90	30.04	10.50	10.49	0.56	69.68	31.17
50th-Percentile Queue Length [ft/ln]	8.19	1673.6	1747.4	751.11	262.54	262.14	14.01	1741.88	779.17
95th-Percentile Queue Length [veh/ln]	0.59	103.42	109.04	47.21	15.82	15.80	1.01	112.95	43.31
95th-Percentile Queue Length [ft/ln]	14.74	2585.4	2725.9	1180.1	395.41	394.91	25.22	2823.81	1082.73



**Movement, Approach, & Intersection Results**

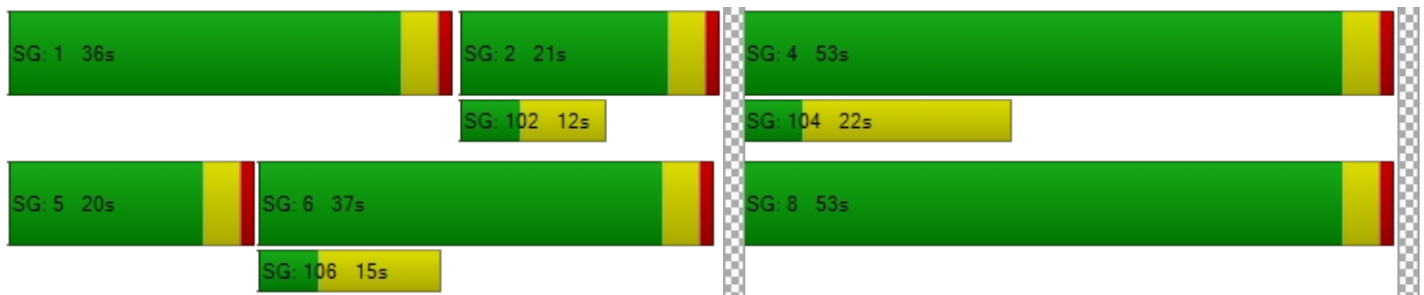
d_M, Delay for Movement [s/veh]	68.10	382.84	408.89	381.26	27.12	27.13	35.03	35.03	35.03	428.48	428.48	95.76
Movement LOS	E	F	F	F	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	385.58			133.59			35.03			276.79		
Approach LOS	F			F			D			F		
d_I, Intersection Delay [s/veh]	277.29											
Intersection LOS	F											
Intersection V/C	1.741											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.37	46.37	46.37
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.138	1.759	3.229
Crosswalk LOS	F	C	A	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	309	891	891
d_b, Bicycle Delay [s]	26.95	39.31	16.91	16.91
I_b,int, Bicycle LOS Score for Intersection	3.261	2.739	1.606	4.835
Bicycle LOS	C	B	A	E

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	122.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.133

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	68	1187	807	651	1113	58	40	50	23	401	158	806
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	202	0	0	15	0	0	6	0	0	202
Total Hourly Volume [veh/h]	68	1187	605	651	1113	43	40	50	17	401	158	604
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	312	159	171	293	11	11	13	4	106	42	159
Total Analysis Volume [veh/h]	72	1249	637	685	1172	45	42	53	18	422	166	636
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	165
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	12	56	0	53	97	0	0	10	0	0	46	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	165	165	165	165	165	165	165	165	165
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	52	52	49	93	93	6	6	42
g / C, Green / Cycle	0.05	0.31	0.31	0.30	0.56	0.56	0.04	0.04	0.25
(v / s)_i Volume / Saturation Flow Rate	0.04	0.35	0.39	0.38	0.32	0.03	0.02	0.04	0.32
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1819	1834
c, Capacity [veh/h]	88	1139	508	537	2036	909	68	68	467
d1, Uniform Delay [s]	77.77	56.53	56.53	58.03	23.33	16.23	78.27	79.41	61.50
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.69	57.28	129.40	138.40	1.19	0.10	9.00	63.38	133.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.82	1.10	1.25	1.28	0.58	0.05	0.62	1.05	1.26
d, Delay for Lane Group [s/veh]	94.46	113.81	185.93	196.43	24.53	16.33	87.27	142.80	194.84
Lane Group LOS	F	F	F	F	C	B	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.46	32.75	39.42	43.01	15.19	0.82	1.94	4.10	36.87
50th-Percentile Queue Length [ft/ln]	86.52	818.66	985.50	1075.3	379.84	20.48	48.57	102.58	921.75
95th-Percentile Queue Length [veh/ln]	6.23	44.80	56.95	62.04	21.59	1.47	3.50	7.39	53.26
95th-Percentile Queue Length [ft/ln]	155.74	1119.9	1423.6	1550.9	539.65	36.87	87.43	184.64	1331.41

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	94.46	113.81	185.93	196.43	24.53	16.33	87.27	142.80	142.80	194.84	194.84	0.00
Movement LOS	F	F	F	F	C	B	F	F	F	F	F	
d_A, Approach Delay [s/veh]	136.56			86.24			122.16			194.84		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	122.73											
Intersection LOS	F											
Intersection V/C	1.133											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	630			1127			73			509		
d_b, Bicycle Delay [s]	38.69			15.71			76.61			45.85		
I_b,int, Bicycle LOS Score for Intersection	3.342			3.141			1.756			2.530		
Bicycle LOS	C			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	86.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.183

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	16	7	460	15	828	565	641	9	8	721	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	207	0	0	2	0	0	100
Total Hourly Volume [veh/h]	13	16	5	460	15	621	565	641	7	8	721	301
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	1	121	4	163	149	169	2	2	190	79
Total Analysis Volume [veh/h]	14	17	5	484	16	654	595	675	7	8	759	317
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	21	31	0	9	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	26	26	17	31	31	1	15	15
g / C, Green / Cycle	0.37	0.37	0.37	0.24	0.45	0.45	0.01	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.16	0.64	0.40	0.33	0.19	0.00	0.00	0.21	0.20
s, saturation flow rate [veh/h]	224	776	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	155	391	603	440	1609	718	19	769	343
d1, Uniform Delay [s]	17.81	25.35	21.95	26.51	13.27	10.84	34.42	27.47	27.01
k, delay calibration	0.50	0.50	0.50	0.28	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.49	144.19	61.93	167.44	0.17	0.01	13.36	12.33	10.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.23	1.28	1.09	1.35	0.42	0.01	0.41	0.99	0.92
d, Delay for Lane Group [s/veh]	21.29	169.53	83.88	193.95	13.44	10.85	47.78	39.81	37.48
Lane Group LOS	C	F	F	F	B	B	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.49	22.12	19.33	27.32	3.32	0.06	0.20	7.28	5.89
50th-Percentile Queue Length [ft/ln]	12.31	553.10	483.21	683.02	82.88	1.41	5.09	181.99	147.37
95th-Percentile Queue Length [veh/ln]	0.89	34.46	28.02	41.76	5.97	0.10	0.37	11.70	9.88
95th-Percentile Queue Length [ft/ln]	22.15	861.47	700.42	1043.9	149.18	2.55	9.16	292.61	246.92

**Movement, Approach, & Intersection Results**

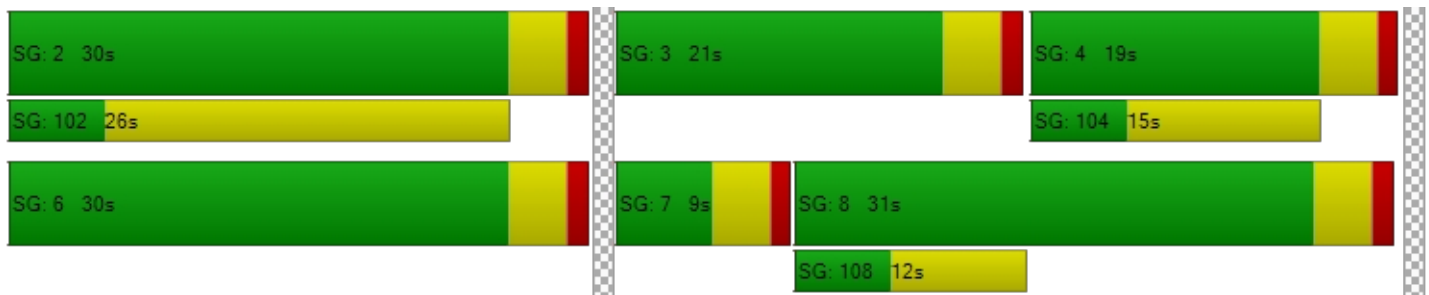
d_M, Delay for Movement [s/veh]	21.29	21.29	21.29	169.53	169.53	83.88	193.95	13.44	10.85	47.78	39.81	37.48
Movement LOS	C	C	C	F	F	F	F	B	B	D	D	D
d_A, Approach Delay [s/veh]	21.29			120.99			97.53			39.18		
Approach LOS	C			F			F			D		
d_I, Intersection Delay [s/veh]	86.57											
Intersection LOS	F											
Intersection V/C	1.183											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	26.58	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.741	3.000	2.938	0.000
Crosswalk LOS	A	C	C	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	743	743	771	429
d_b, Bicycle Delay [s]	13.83	13.83	13.21	21.61
I_b,int, Bicycle LOS Score for Intersection	1.622	3.805	2.615	2.536
Bicycle LOS	A	D	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	146.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.132

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	80	1117	100	10	1283	4	7	46	329	368	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	1	0	0	82	0	0	13
Total Hourly Volume [veh/h]	80	1117	75	10	1283	3	7	46	247	368	69	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	294	20	3	338	1	2	12	65	97	18	10
Total Analysis Volume [veh/h]	84	1176	79	11	1351	3	7	48	260	387	73	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	230
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	136	0	9	131	0	0	38	0	0	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	230	230	230	230	230	230	230	230	230	230
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	134	134	3	127	127	34	34	43	43
g / C, Green / Cycle	0.04	0.58	0.58	0.01	0.55	0.55	0.15	0.15	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.05	0.62	0.05	0.01	0.71	0.00	0.03	0.16	0.21	0.06
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	1810	1787
c, Capacity [veh/h]	79	1109	943	20	1048	890	281	240	338	334
d1, Uniform Delay [s]	109.97	47.85	20.94	113.14	51.59	23.19	85.83	97.88	93.49	81.20
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	65.87	44.46	0.17	21.67	137.60	0.01	0.34	81.89	94.12	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.07	1.06	0.08	0.55	1.29	0.00	0.20	1.08	1.14	0.34
d, Delay for Lane Group [s/veh]	175.85	92.31	21.11	134.82	189.18	23.19	86.17	179.78	187.61	81.80
Lane Group LOS	F	F	C	F	F	C	F	F	F	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	6.24	76.82	2.01	0.79	100.17	0.08	2.95	19.99	29.24	6.03
50th-Percentile Queue Length [ft/ln]	155.89	1920.4	50.31	19.68	2504.3	1.98	73.63	499.84	731.07	150.74
95th-Percentile Queue Length [veh/ln]	10.52	96.11	3.62	1.42	141.04	0.14	5.30	28.43	40.96	10.06
95th-Percentile Queue Length [ft/ln]	262.93	2402.8	90.56	35.43	3526.1	3.56	132.53	710.64	1024.04	251.42

**Movement, Approach, & Intersection Results**

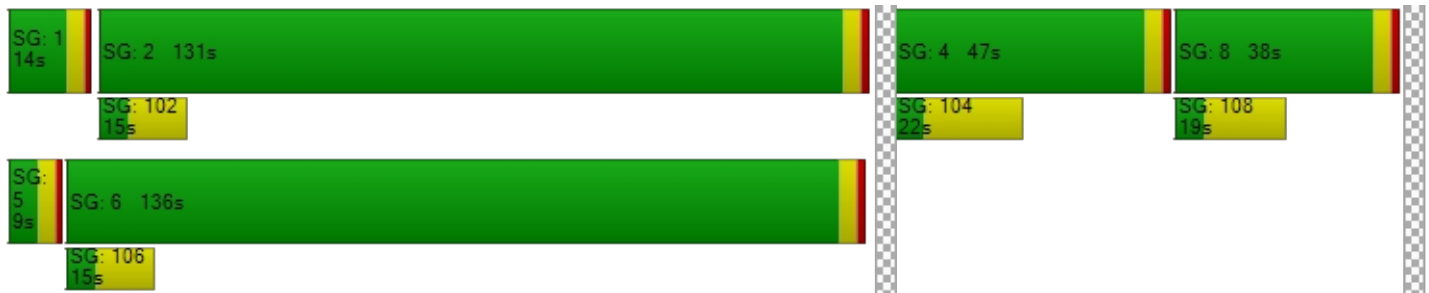
d_M, Delay for Movement [s/veh]	175.85	92.31	21.11	134.82	189.18	23.19	86.17	86.17	179.78	187.61	81.80	81.80
Movement LOS	F	F	C	F	F	C	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	93.35			188.38			163.43			163.54		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	146.46											
Intersection LOS	F											
Intersection V/C	1.132											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	106.18	106.18	106.18	106.18
I_p,int, Pedestrian LOS Score for Intersection	3.051	2.853	2.283	2.223
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1148	1104	296	374
d_b, Bicycle Delay [s]	20.88	23.06	83.51	76.02
I_b,int, Bicycle LOS Score for Intersection	3.810	3.814	2.215	2.408
Bicycle LOS	D	D	B	B

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	22	1046	228	97	1729	0	0	12	73	206	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	57	0	0	0	0	0	18	0	0	11
Total Hourly Volume [veh/h]	22	1046	171	97	1729	0	0	12	55	206	5	34
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	275	45	26	455	0	0	3	14	54	1	9
Total Analysis Volume [veh/h]	23	1101	180	102	1820	0	0	13	58	217	5	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Overla	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	23	23	10	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	51	51	6	55	55	4	4	8	8	8
g / C, Green / Cycle	0.03	0.60	0.60	0.07	0.65	0.65	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.30	0.11	0.06	0.48	0.48	0.01	0.04	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1813	1615
c, Capacity [veh/h]	47	2170	969	129	1226	1226	97	82	163	163	145
d1, Uniform Delay [s]	40.92	9.81	7.68	38.92	10.30	10.30	38.64	39.80	37.58	37.58	36.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.51	0.85	0.42	10.11	4.09	4.09	0.62	10.51	4.93	4.91	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.49	0.51	0.19	0.79	0.74	0.74	0.13	0.71	0.68	0.68	0.25
d, Delay for Lane Group [s/veh]	48.43	10.66	8.10	49.02	14.38	14.38	39.26	50.31	42.51	42.49	36.96
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.57	5.43	1.44	2.43	10.93	10.93	0.27	1.42	2.43	2.43	0.72
50th-Percentile Queue Length [ft/ln]	14.21	135.77	35.96	60.63	273.18	273.18	6.82	35.43	60.64	60.72	18.05
95th-Percentile Queue Length [veh/ln]	1.02	9.25	2.59	4.37	16.35	16.35	0.49	2.55	4.37	4.37	1.30
95th-Percentile Queue Length [ft/ln]	25.57	231.31	64.73	109.13	408.71	408.71	12.28	63.78	109.14	109.30	32.48

**Movement, Approach, & Intersection Results**

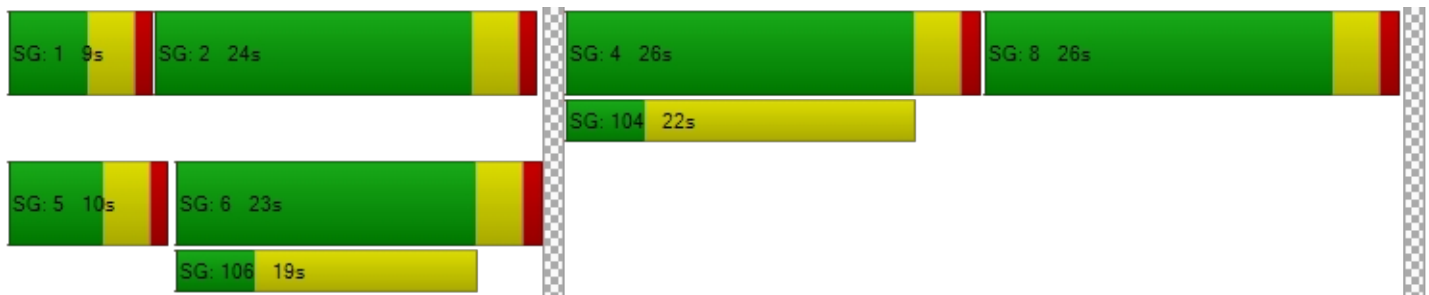
d_M, Delay for Movement [s/veh]	48.43	10.66	8.10	49.02	14.38	14.38	39.26	39.26	50.31	42.50	42.49	36.96
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	10.97			16.22			48.29			41.73		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.79											
Intersection LOS	B											
Intersection V/C	0.589											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			33.98			0.00			33.98		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.897			0.000			2.297		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	447			471			518			518		
d_b, Bicycle Delay [s]	25.62			24.85			23.35			23.35		
I_b,int, Bicycle LOS Score for Intersection	2.682			3.145			1.706			2.003		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.704

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	213	659	0	0	1851	170	0	0	0	71	0	739
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	43	0	0	0	0	0	185
Total Hourly Volume [veh/h]	213	659	0	0	1851	127	0	0	0	71	0	554
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	173	0	0	487	33	0	0	0	19	0	146
Total Analysis Volume [veh/h]	224	694	0	0	1948	134	0	0	0	75	0	583
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protect	Permis	Permis	Permis	Permis	Unsign	Permis	Permis	Permis	Permis	Permis	Unsign
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	15	24	0	0	9	0	0	0	0	56	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Version 2020 (SP 0-5)

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	80	80	80		80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	11	68	53		4
g / C, Green / Cycle	0.14	0.84	0.66		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.19	0.54		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	250	3053	2372		102
d1, Uniform Delay [s]	33.94	1.21	10.29		37.20
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	10.80	0.17	3.35		9.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.90	0.23	0.82		0.74
d, Delay for Lane Group [s/veh]	44.74	1.38	13.64		47.04
Lane Group LOS	D	A	B		D
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	4.91	0.32	11.13		1.70
50th-Percentile Queue Length [ft/ln]	122.85	8.02	278.35		42.39
95th-Percentile Queue Length [veh/ln]	8.55	0.58	16.61		3.05
95th-Percentile Queue Length [ft/ln]	213.73	14.43	415.15		76.30

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.74	1.38	0.00	0.00	13.64	0.00	0.00	0.00	0.00	0.00	47.04	0.00	0.00
Movement LOS	D	A			B						D		
d_A, Approach Delay [s/veh]	11.96				13.64				0.00		47.04		
Approach LOS	B				B				A		D		
d_I, Intersection Delay [s/veh]	13.97												
Intersection LOS	B												
Intersection V/C	0.704												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	31.51
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	1.960
Crosswalk LOS	F	F	F	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	125	0	1300
d_b, Bicycle Delay [s]	22.50	35.16	40.00	4.90
I_b,int, Bicycle LOS Score for Intersection	2.317	3.167	4.132	1.560
Bicycle LOS	B	C	D	A

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	48.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.904

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↗			↖↑↑			↖↗↗					
Lane Configuration	↑↑↗			↖↑↑			↖↗↗					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	976	163	512	1954	0	120	0	1165	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	41	0	0	0	0	0	291	0	0	0
Total Hourly Volume [veh/h]	0	976	122	512	1954	0	120	0	874	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	257	32	135	514	0	32	0	230	0	0	0
Total Analysis Volume [veh/h]	0	1027	128	539	2057	0	126	0	920	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing major street	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing minor street	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permis	Permis	Unsign	Protect	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	29	0	30	59	0	31	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	25	26	55	27	27
g / C, Green / Cycle	0.28	0.29	0.61	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.28	0.30	0.57	0.07	0.32
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859
c, Capacity [veh/h]	1005	523	2211	543	857
d1, Uniform Delay [s]	32.53	32.03	15.78	23.73	31.54
k, delay calibration	0.50	0.37	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	33.92	42.19	8.53	0.22	38.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.02	1.03	0.93	0.23	1.07
d, Delay for Lane Group [s/veh]	66.45	74.22	24.31	23.94	70.07
Lane Group LOS	F	F	C	C	F
Critical Lane Group	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	15.30	17.08	18.93	2.01	13.55
50th-Percentile Queue Length [ft/ln]	382.61	427.12	473.29	50.33	338.63
95th-Percentile Queue Length [veh/ln]	22.01	24.32	26.07	3.62	20.42
95th-Percentile Queue Length [ft/ln]	550.13	608.08	651.68	90.60	510.41

**Movement, Approach, & Intersection Results**

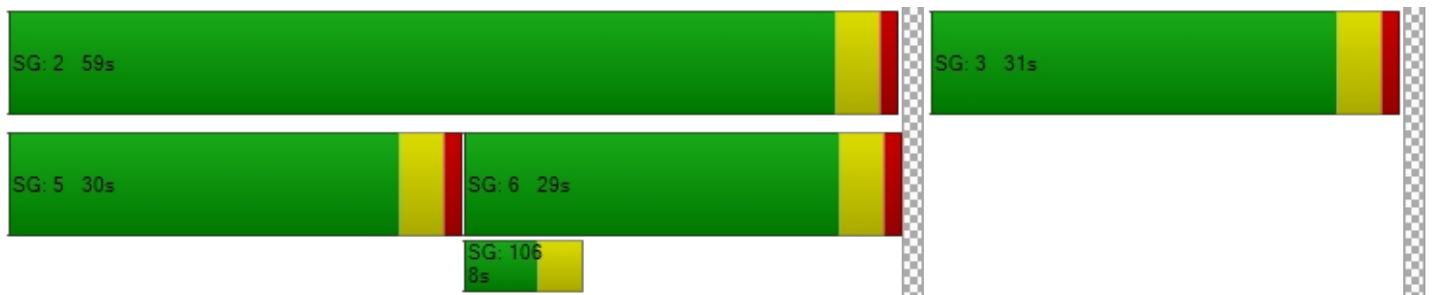
d_M, Delay for Movement [s/veh]	0.00	66.45	0.00	74.22	24.31	0.00	23.94	0.00	70.07	0.00	0.00	0.00
Movement LOS		F		F	C		C		F			
d_A, Approach Delay [s/veh]	66.45		34.68			64.51			0.00			
Approach LOS	E		C			E			A			
d_I, Intersection Delay [s/veh]	48.35											
Intersection LOS	D											
Intersection V/C	0.904											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	36.45
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	1.950
Crosswalk LOS	F	F	F	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	1222	600	0
d_b, Bicycle Delay [s]	23.47	6.81	22.05	45.00
I_b,int, Bicycle LOS Score for Intersection	2.407	3.701	1.560	4.132
Bicycle LOS	B	D	A	D

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



## Bloomington Business Park Specific Plan

Vistro File: Z:\...\Bloomington Alt.vistro

Scenario 6 2040 PM

Report File: Z:\...\2040 PM.pdf

12/9/2020

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	800	2874	1153	592	1354	882	976	558	523	605	10317

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	166	3151	386	1557	1280	145	1200	1714	129	185	307	1746	11966

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	2874	25	59	1592	15	88	4653

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	237	2460	480	534	1242	97	218	1123	221	218	156	169	7155

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	1	9	16	58	7	34	23	2287	13	9	394	17	2868

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	143	897	165	51	704	17	75	1555	1212	58	195	56	5128

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	784	154	1030	655	40	328	2991



Version 2020 (SP 0-5)

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	80	8	11	13	16	98	141	734	47	13	780	22	1963

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	23	8	13	1245	343	14	1646

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	59	31	10	38	61	70	85	673	169	8	304	52	1560

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	498	2952	1459	637	585	7	1013	7151

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	2436	524	489	1591	582	2	237	5861

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	1	2673	2	39	1568	234	795	11	83	1	2	121	5530

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	82	1800	66	575	966	151	396	571	124	27	204	478	5440

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	139	1248	32	76	779	78	598	375	446	26	131	68	3996

Version 2020 (SP 0-5)

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	282	1356	249	135	1241	47	39	329	201	125	81	76	4161

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	549	1796	20	73	1316	239	168	74	96	18	45	15	4409

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	630	1853	14	52	1323	78	109	22	566	29	22	17	4715

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	1556	399	408	941	9	13	9	5	880	17	1001	5247

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	68	1187	807	651	1113	58	40	50	23	401	158	806	5362

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	16	7	460	15	828	565	641	9	8	721	401	3684

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	80	1117	100	10	1283	4	7	46	329	368	69	52	3465

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	22	1046	228	97	1729	0	0	12	73	206	5	45	3463

Version 2020 (SP 0-5)

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	213	659	1851	170	71	739	3703

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	976	163	512	1954	120	1165	4890

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## Bloomington Business Park Specific Plan

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Scenario 7 Existing AM + P

Report File: C:\...\Existing AM + P.pdf

4/22/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.645	36.0	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	0.506	30.5	C
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.340	4.4	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.424	19.0	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.443	10.4	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.476	12.7	B
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.101	15.7	C
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.035	12.5	B
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.114	12.8	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	WB Thru	0.516	10.9	B
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	WB Left	1.021	63.8	E
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.846	42.1	D
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.518	8.3	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.653	31.0	C
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.467	11.4	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	2.389	32.7	C
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.367	8.3	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.353	8.2	A
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.494	12.5	B
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	EB Thru	0.737	37.3	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.564	24.5	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.596	18.3	B
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.418	11.5	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.418	10.9	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	EBR2	0.596	22.0	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.004	8.5	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	SB Thru	0.079	9.4	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.032	9.3	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.005	9.8	A
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.011	9.9	A
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.215	5.3	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.006	10.7	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.004	8.9	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.004	9.0	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.002	9.1	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.008	11.0	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.008	8.5	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.006	8.6	A



V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.



**Intersection Level Of Service Report**  
**Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	36.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	615	801	308	563	657	1094	1048	0	519	375	0	691
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	8	0	0	32	0	0	0	80	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	77	0	0	274	0	0	150	0	0	173
Total Hourly Volume [veh/h]	634	809	231	563	689	820	1048	0	449	375	0	518
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	1.0000	0.9530	0.9530	1.0000	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	212	61	148	181	215	275	0	118	98	0	136
Total Analysis Volume [veh/h]	665	849	242	591	723	860	1100	0	471	393	0	544
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	2		3			3			1			
v_ci, Inbound Pedestrian Volume crossing mi	1		3			3			2			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	39	21	37	38	38
g / C, Green / Cycle	0.21	0.36	0.19	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.16	0.17	0.14	0.31	0.11
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	738	1855	672	1757	1199	1199
d1, Uniform Delay [s]	42.28	27.04	43.21	27.85	34.72	26.85
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.35	0.82	3.95	0.71	3.32	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.90	0.46	0.88	0.41	0.92	0.33
d, Delay for Lane Group [s/veh]	46.63	27.86	47.16	28.57	38.04	27.01
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.97	5.65	8.04	4.90	13.07	3.48
50th-Percentile Queue Length [ft/ln]	224.24	141.13	200.96	122.45	326.67	87.11
95th-Percentile Queue Length [veh/ln]	13.88	9.54	12.69	8.53	18.99	6.27
95th-Percentile Queue Length [ft/ln]	347.03	238.55	317.21	213.19	474.87	156.81

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	46.63	27.86	0.00	47.16	28.57	0.00	38.04	0.00	0.00	27.01	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	36.10			36.93			38.04			27.01		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	36.02											
Intersection LOS	D											
Intersection V/C	0.645											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			46.34			46.34		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.085			2.810		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	509			509			800			800		
d_b, Bicycle Delay [s]	30.53			30.53			19.77			19.77		
I_b,int, Bicycle LOS Score for Intersection	2.392			2.282			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	146	1235	88	550	875	156	190	194	58	49	243	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	27	0	0	112	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	39	0	0	15	0	0	88
Total Hourly Volume [veh/h]	146	1262	66	550	987	117	190	194	43	49	243	262
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	337	18	147	264	31	51	52	11	13	65	70
Total Analysis Volume [veh/h]	156	1350	71	588	1056	125	203	207	46	52	260	280
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	34	40	0	30	36	0	15	42	0	13	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	64	64	23	80	80	9	17	17	4	12	39
g / C, Green / Cycle	0.06	0.51	0.51	0.19	0.64	0.64	0.07	0.14	0.14	0.03	0.10	0.32
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.20	0.17	0.22	0.22	0.06	0.06	0.03	0.01	0.07	0.10
s, saturation flow rate [veh/h]	3514	5176	1838	3514	3618	1799	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	221	2660	945	661	2313	1150	260	491	219	120	347	903
d1, Uniform Delay [s]	57.47	18.52	18.52	49.51	10.40	10.41	56.89	49.53	48.07	59.19	55.06	32.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.12	0.44	1.24	4.38	0.40	0.81	5.04	0.58	0.47	2.44	3.25	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.39	0.39	0.89	0.34	0.34	0.78	0.42	0.21	0.43	0.75	0.31
d, Delay for Lane Group [s/veh]	61.59	18.95	19.76	53.88	10.81	11.22	61.94	50.11	48.54	61.62	58.31	32.63
Lane Group LOS	E	B	B	D	B	B	E	D	D	E	E	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.47	5.83	6.43	9.18	4.75	4.87	3.26	2.94	1.28	0.83	4.02	3.12
50th-Percentile Queue Length [ft/ln]	61.85	145.82	160.82	229.52	118.68	121.65	81.58	73.58	32.03	20.65	100.60	78.11
95th-Percentile Queue Length [veh/ln]	4.45	9.79	10.59	14.15	8.32	8.48	5.87	5.30	2.31	1.49	7.24	5.62
95th-Percentile Queue Length [ft/ln]	111.34	244.84	264.81	353.75	208.01	212.09	146.85	132.44	57.65	37.17	181.08	140.59

**Movement, Approach, & Intersection Results**

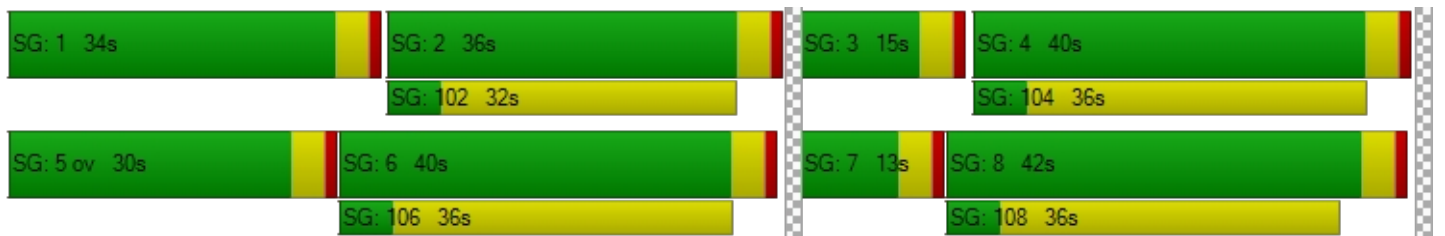
d_M, Delay for Movement [s/veh]	61.59	19.13	19.76	53.88	10.91	11.22	61.94	50.11	48.54	61.62	58.31	32.63
Movement LOS	E	B	B	D	B	B	E	D	D	E	E	C
d_A, Approach Delay [s/veh]	23.36			25.22			55.22			46.45		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	30.52											
Intersection LOS	C											
Intersection V/C	0.506											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.83	53.83	53.83	53.83
I_p,int, Pedestrian LOS Score for Intersection	3.397	3.460	2.956	3.275
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	576	512	608	576
d_b, Bicycle Delay [s]	31.69	34.61	30.29	31.69
I_b,int, Bicycle LOS Score for Intersection	2.219	2.554	1.948	2.121
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.340

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1408	23	56	888	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	0	112	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1435	17	56	1000	10	47
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	378	4	15	263	3	12
Total Analysis Volume [veh/h]	1512	18	59	1054	11	50
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	24	0	9	33	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	51	3	59	4	4
g / C, Green / Cycle	0.73	0.73	0.05	0.84	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.29	0.01	0.02	0.20	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3763	1174	177	4320	93	83
d1, Uniform Delay [s]	3.69	2.64	32.15	1.20	31.75	32.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.02	1.09	0.13	0.56	6.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.40	0.02	0.33	0.24	0.12	0.60
d, Delay for Lane Group [s/veh]	4.01	2.66	33.24	1.34	32.31	39.44
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.17	0.03	0.50	0.20	0.19	0.96
50th-Percentile Queue Length [ft/ln]	29.30	0.87	12.38	4.88	4.68	24.07
95th-Percentile Queue Length [veh/ln]	2.11	0.06	0.89	0.35	0.34	1.73
95th-Percentile Queue Length [ft/ln]	52.74	1.57	22.29	8.78	8.42	43.33

**Movement, Approach, & Intersection Results**

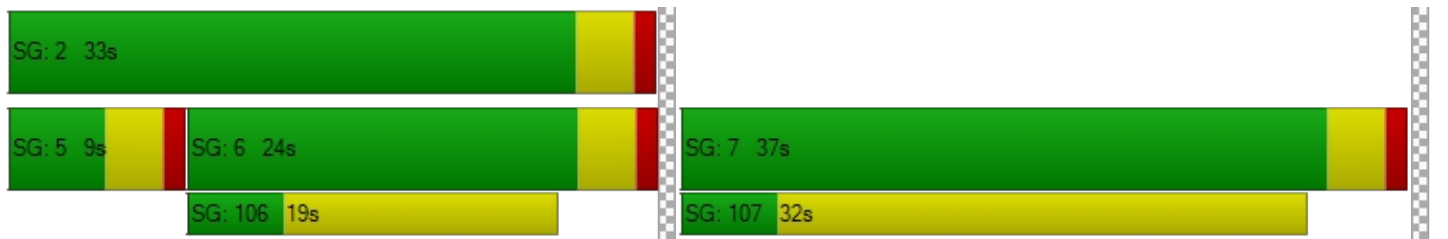
d_M, Delay for Movement [s/veh]	4.01	2.66	33.24	1.34	32.31	39.44
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	3.99		3.03		38.15	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.37					
Intersection LOS	A					
Intersection V/C	0.340					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.042	2.182
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	828	942
d_b, Bicycle Delay [s]	17.89	12.03	9.80
I_b,int, Bicycle LOS Score for Intersection	2.404	2.172	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	19.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	134	1235	35	56	761	65	99	59	41	48	75	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	112	0	0	0	0	0	0	0	27
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	16	0	0	10	0	0	29
Total Hourly Volume [veh/h]	134	1235	26	168	761	49	99	59	31	48	75	88
Peak Hour Factor	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	331	7	45	204	13	27	16	8	13	20	24
Total Analysis Volume [veh/h]	144	1324	28	180	816	53	106	63	33	51	80	94
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	11	40	0	11	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	55	55	5	55	55	7	11	11	4	7	7
g / C, Green / Cycle	0.06	0.61	0.61	0.06	0.61	0.61	0.07	0.12	0.12	0.04	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.02	0.05	0.16	0.16	0.06	0.02	0.02	0.03	0.02	0.06
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1841	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	3143	981	199	2197	1118	137	425	190	75	301	134
d1, Uniform Delay [s]	41.85	9.34	7.08	42.30	8.27	8.27	40.94	35.75	35.86	42.64	38.75	40.24
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.96	0.42	0.05	14.16	0.29	0.57	9.05	0.16	0.43	10.37	0.47	6.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.72	0.42	0.03	0.91	0.26	0.26	0.78	0.15	0.17	0.68	0.27	0.70
d, Delay for Lane Group [s/veh]	46.81	9.76	7.13	56.46	8.56	8.84	49.98	35.91	36.29	53.01	39.22	46.67
Lane Group LOS	D	A	A	E	A	A	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.69	4.22	0.21	2.36	2.45	2.59	2.63	0.63	0.67	1.32	0.84	2.24
50th-Percentile Queue Length [ft/ln]	42.35	105.41	5.29	58.94	61.28	64.74	65.63	15.64	16.75	33.10	21.01	56.08
95th-Percentile Queue Length [veh/ln]	3.05	7.58	0.38	4.24	4.41	4.66	4.73	1.13	1.21	2.38	1.51	4.04
95th-Percentile Queue Length [ft/ln]	76.22	189.59	9.52	106.10	110.30	116.53	118.14	28.15	30.16	59.58	37.82	100.95

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	46.81	9.76	7.13	56.46	8.64	8.84	49.98	35.91	36.29	53.01	39.22	46.67
Movement LOS	D	A	A	E	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	13.28			16.86			43.36			45.46		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	19.02											
Intersection LOS	B											
Intersection V/C	0.424											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.125	3.069	2.551	2.582
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	799	799
d_b, Bicycle Delay [s]	22.80	22.80	16.24	16.24
I_b,int, Bicycle LOS Score for Intersection	2.387	2.145	1.735	1.769
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	5	3	3	11	0	10	9	177	3	8	203	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	0	8	0	0	0	0	70	57	31	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	3	11	11	0	10	9	247	60	39	220	10
Peak Hour Factor	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	1	3	3	0	3	3	72	18	11	64	3
Total Analysis Volume [veh/h]	22	4	13	13	0	12	11	289	70	46	258	12
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	672	681	836	805
Degree of Utilization, x	0.06	0.04	0.44	0.39

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.18	0.11	2.30	1.88
95th-Percentile Queue Length [ft]	4.61	2.86	57.40	46.98
Approach Delay [s/veh]	8.69	8.49	10.70	10.32
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	10.36			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	4	4	0	16	0	0	39	39	16	39	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	169	34	6	90	5	5	120	113	77	167	19
Peak Hour Factor	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	47	10	2	25	1	1	34	32	22	47	5
Total Analysis Volume [veh/h]	76	189	38	7	101	6	6	134	126	86	187	21
Pedestrian Volume [ped/h]	0			0			0			0		

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**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	636	595	669	642
Degree of Utilization, x	0.48	0.19	0.40	0.46

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	2.57	0.70	1.91	2.41
95th-Percentile Queue Length [ft]	64.25	17.59	47.77	60.15
Approach Delay [s/veh]	13.70	10.49	11.90	13.28
Approach LOS	B	B	B	B
Intersection Delay [s/veh]	12.71			
Intersection LOS	B			



**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.101

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	208	39	22	177	37	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	16	32	4	4	127
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	224	55	54	181	41	164
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	15	15	50	11	45
Total Analysis Volume [veh/h]	246	60	59	199	45	180
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.10	0.23
d_M, Delay for Movement [s/veh]	0.00	0.00	7.98	0.00	15.74	12.37
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.15	0.15	1.47	1.47
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.66	3.66	36.84	36.84
d_A, Approach Delay [s/veh]	0.00		1.83		13.04	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.32					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	8	10	6	12	26	5	110	6	8	172	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	0	0	0	0	12	31	0	48	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	8	10	6	12	26	5	122	37	8	220	9
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	2	3	2	3	7	1	32	10	2	57	2
Total Analysis Volume [veh/h]	18	8	10	6	13	27	5	127	39	8	230	9
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.02	0.01	0.01	0.03	0.03	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.47	12.22	9.38	12.15	12.36	9.86	7.70	0.00	0.00	7.54	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.20	0.22	0.22	0.22	0.01	0.01	0.01	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	4.90	4.90	4.90	5.60	5.60	5.60	0.28	0.28	0.28	0.42	0.42	0.42
d_A, Approach Delay [s/veh]	11.56			10.86			0.23			0.24		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.03											
Intersection LOS	B											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.114

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	26	4	1	61	76	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	36	143	58
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	4	1	97	219	64
Peak Hour Factor	0.6840	0.6840	0.6840	0.6840	0.6840	0.6840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	1	0	35	80	23
Total Analysis Volume [veh/h]	60	6	1	142	320	94
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.79	11.21	8.12	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.42	0.42	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.44	10.44	0.06	0.06	0.00	0.00
d_A, Approach Delay [s/veh]	12.64		0.06		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.35					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	14	0	0	0	55	0	0	219	57
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	38	5	28	18	13	1	127	6	3	284	74
Peak Hour Factor	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	12	2	9	6	4	0	41	2	1	91	24
Total Analysis Volume [veh/h]	6	49	6	36	23	17	1	162	8	4	363	95
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	664	668	676	779	711	827
Degree of Utilization, x	0.09	0.11	0.24	0.01	0.52	0.11

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.30	0.38	0.94	0.03	2.99	0.39
95th-Percentile Queue Length [ft]	7.56	9.59	23.49	0.78	74.81	9.70
Approach Delay [s/veh]	8.97	9.09	9.60		11.92	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	10.89					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	63.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.021

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+  →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	9	0	0	34	0	0	0	0	84	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	253	0	0	0	0	0	122
Total Hourly Volume [veh/h]	392	1167	0	0	1259	759	0	0	0	423	5	364
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	101	302	0	0	325	196	0	0	0	109	1	94
Total Analysis Volume [veh/h]	405	1207	0	0	1302	785	0	0	0	437	5	376
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	23	67	0	0	44	0	0	0	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	19	63	40	40		19	19
g / C, Green / Cycle	0.21	0.70	0.44	0.44		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.25	0.35	0.27	0.51		0.26	0.25
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1715	1530
c, Capacity [veh/h]	342	2398	2176	679		363	324
d1, Uniform Delay [s]	35.50	6.27	18.97	25.04		35.50	35.50
k, delay calibration	0.27	0.50	0.50	0.50		0.28	0.26
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	97.64	0.76	1.22	86.25		112.15	89.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.18	0.50	0.60	1.16		1.22	1.16
d, Delay for Lane Group [s/veh]	133.14	7.03	20.19	111.30		147.65	125.18
Lane Group LOS	F	A	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	16.60	4.56	6.76	29.72		19.05	14.97
50th-Percentile Queue Length [ft/ln]	414.95	113.95	168.91	742.90		476.15	374.24
95th-Percentile Queue Length [veh/ln]	25.34	8.06	11.02	42.78		28.93	22.99
95th-Percentile Queue Length [ft/ln]	633.39	201.49	275.48	1069.40		723.28	574.79

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	133.14	7.03	0.00	0.00	20.19	111.30	0.00	0.00	0.00	147.65	147.65	125.18
Movement LOS	F	A			C	F				F	F	F
d_A, Approach Delay [s/veh]	38.71				54.46		0.00		137.32			
Approach LOS	D				D		A		F			
d_I, Intersection Delay [s/veh]	63.84											
Intersection LOS	E											
Intersection V/C	1.021											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.46	36.46
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.422	2.421
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	889	0	422
d_b, Bicycle Delay [s]	4.06	13.90	45.01	28.02
I_b,int, Bicycle LOS Score for Intersection	2.890	2.847	4.132	3.111
Bicycle LOS	C	C	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	42.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.846

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1001	385	485	1080	0	530	4	441	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	21	0	117	0	0	0	82	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	102	0	0	0	0	0	131	0	0	0
Total Hourly Volume [veh/h]	0	1030	304	485	1197	0	530	4	392	0	0	0
Peak Hour Factor	1.0000	0.9630	0.9630	0.9630	0.9630	1.0000	0.9630	0.9630	0.9630	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	267	79	126	311	0	138	1	102	0	0	0
Total Analysis Volume [veh/h]	0	1070	316	504	1243	0	550	4	407	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	20	0	26	46	0	0	24	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	16	16	22	42	20	20	
g / C, Green / Cycle	0.23	0.23	0.31	0.60	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.22	0.21	0.31	0.36	0.29	0.32	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1560	
c, Capacity [veh/h]	1124	351	508	2057	463	446	
d1, Uniform Delay [s]	26.69	26.29	24.00	8.80	25.09	25.09	
k, delay calibration	0.50	0.50	0.25	0.50	0.21	0.26	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	17.47	28.43	26.29	1.33	30.16	63.99	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.95	0.90	0.99	0.60	1.01	1.11	
d, Delay for Lane Group [s/veh]	44.16	54.73	50.29	10.13	55.25	89.08	
Lane Group LOS	D	D	D	B	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	7.36	7.60	11.38	5.16	11.02	14.81	
50th-Percentile Queue Length [ft/ln]	183.89	190.10	284.47	129.04	275.56	370.21	
95th-Percentile Queue Length [veh/ln]	11.80	12.13	16.91	8.89	16.58	22.38	
95th-Percentile Queue Length [ft/ln]	295.09	303.16	422.78	222.19	414.44	559.57	

**Movement, Approach, & Intersection Results**

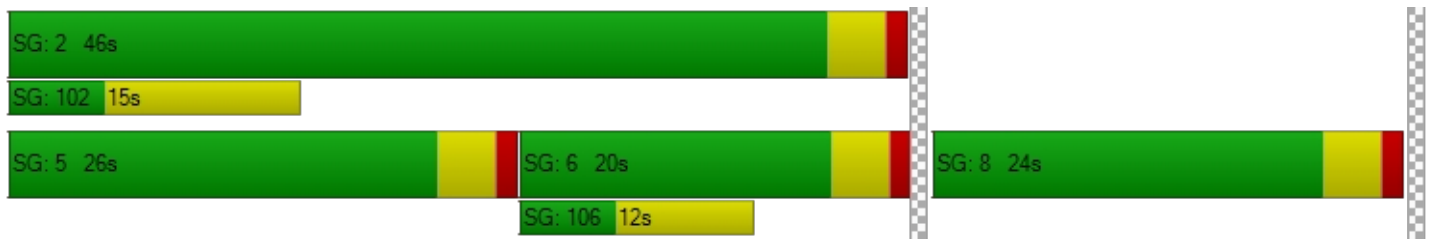
d_M, Delay for Movement [s/veh]	0.00	44.16	54.73	50.29	10.13	0.00	59.72	89.08	89.08	0.00	0.00	0.00
Movement LOS		D	D	D	B		E	F	F			
d_A, Approach Delay [s/veh]		46.57		21.71			72.60			0.00		
Approach LOS		D		C			E			A		
d_I, Intersection Delay [s/veh]	42.07											
Intersection LOS	D											
Intersection V/C	0.846											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]		0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]		0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]		0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]		0.00		0.00		26.64		26.64
I_p,int, Pedestrian LOS Score for Intersection		0.000		0.000		2.470		2.155
Crosswalk LOS		F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane		2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]		456		1198		570		0
d_b, Bicycle Delay [s]		20.89		5.64		17.91		35.06
I_b,int, Bicycle LOS Score for Intersection		2.378		3.001		3.361		4.132
Bicycle LOS		B		C		C		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1205	4	80	1236	190	92	0	32	0	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	49	0	0	199	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	48	0	0	8	0	0	25
Total Hourly Volume [veh/h]	5	1254	3	80	1435	142	92	0	24	0	0	74
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	333	1	21	381	38	24	0	6	0	0	20
Total Analysis Volume [veh/h]	5	1331	3	85	1523	151	98	0	25	0	0	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	12	19	0	0	42	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	55	47	47	55	51	51	7	7	7
g / C, Green / Cycle	0.79	0.67	0.67	0.79	0.72	0.72	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.37	0.37	0.15	0.44	0.10	0.07	0.02	0.05
s, saturation flow rate [veh/h]	407	1800	1799	551	3427	1530	1341	1530	1530
c, Capacity [veh/h]	385	1208	1207	496	2474	1105	137	151	202
d1, Uniform Delay [s]	3.67	6.03	6.03	3.59	4.88	3.01	30.86	28.96	30.04
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	1.82	1.83	0.75	1.16	0.26	6.75	0.51	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	0.55	0.55	0.17	0.62	0.14	0.71	0.17	0.39
d, Delay for Lane Group [s/veh]	3.68	7.86	7.86	4.34	6.04	3.27	37.61	29.47	31.27
Lane Group LOS	A	A	A	A	A	A	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.01	4.32	4.32	0.22	3.83	0.50	1.81	0.39	1.29
50th-Percentile Queue Length [ft/ln]	0.19	108.05	108.00	5.38	95.77	12.47	45.35	9.85	32.27
95th-Percentile Queue Length [veh/ln]	0.01	7.73	7.73	0.39	6.90	0.90	3.27	0.71	2.32
95th-Percentile Queue Length [ft/ln]	0.35	193.29	193.21	9.69	172.39	22.45	81.64	17.74	58.08

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.68	7.86	7.86	4.34	6.04	3.27	37.61	29.47	29.47	31.27	31.27	31.27
Movement LOS	A	A	A	A	A	A	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.84			5.72			35.96			31.27		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	8.32											
Intersection LOS	A											
Intersection V/C	0.518											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.61	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	2.855	0.000	2.055	1.918
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	343	428	1085	1085
d_b, Bicycle Delay [s]	24.06	21.64	7.34	7.34
I_b,int, Bicycle LOS Score for Intersection	2.665	3.050	1.776	1.731
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	49	0	0	199	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	32	0	0	14	0	0	47
Total Hourly Volume [veh/h]	99	902	9	200	1161	94	169	75	40	10	117	141
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	241	2	53	310	25	45	20	11	3	31	38
Total Analysis Volume [veh/h]	106	963	10	213	1239	100	180	80	43	11	125	150
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	18	36	0	16	26	0	21	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	41	41	14	48	48	12	22	22	1	12	12
g / C, Green / Cycle	0.08	0.43	0.43	0.15	0.50	0.50	0.13	0.24	0.24	0.01	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.27	0.13	0.38	0.38	0.11	0.02	0.03	0.01	0.07	0.10
s, saturation flow rate [veh/h]	1619	1800	1793	1619	1800	1753	1619	3427	1530	1619	1800	1530
c, Capacity [veh/h]	132	781	778	239	900	877	205	808	361	24	222	189
d1, Uniform Delay [s]	42.96	20.91	20.92	39.79	19.02	19.13	40.81	28.46	28.60	46.52	39.29	40.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.77	3.74	3.76	10.82	5.71	6.06	11.19	0.05	0.15	13.68	2.23	7.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.62	0.62	0.89	0.75	0.76	0.88	0.10	0.12	0.47	0.56	0.79
d, Delay for Lane Group [s/veh]	53.73	24.66	24.67	50.61	24.73	25.19	52.00	28.51	28.74	60.20	41.52	47.90
Lane Group LOS	D	C	C	D	C	C	D	C	C	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.82	8.86	8.84	5.53	12.54	12.46	4.73	0.71	0.78	0.35	2.86	3.76
50th-Percentile Queue Length [ft/ln]	70.52	221.62	220.90	138.33	313.57	311.60	118.14	17.87	19.51	8.65	71.54	93.98
95th-Percentile Queue Length [veh/ln]	5.08	13.75	13.71	9.39	18.35	18.25	8.29	1.29	1.40	0.62	5.15	6.77
95th-Percentile Queue Length [ft/ln]	126.94	343.69	342.77	234.78	458.78	456.35	207.27	32.16	35.11	15.57	128.77	169.16

**Movement, Approach, & Intersection Results**

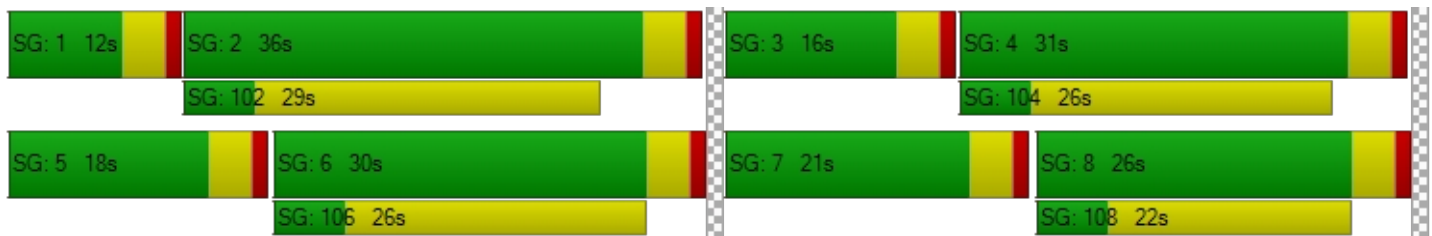
d_M, Delay for Movement [s/veh]	53.73	24.67	24.67	50.61	24.94	25.19	52.00	28.51	28.74	60.20	41.52	47.90
Movement LOS	D	C	C	D	C	C	D	C	C	E	D	D
d_A, Approach Delay [s/veh]	27.52			28.48			42.50			45.59		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	31.00											
Intersection LOS	C											
Intersection V/C	0.653											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.97	38.97	38.97	38.97
I_p,int, Pedestrian LOS Score for Intersection	2.774	2.978	2.713	2.628
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	673	463	568
d_b, Bicycle Delay [s]	25.09	20.92	28.09	24.37
I_b,int, Bicycle LOS Score for Intersection	2.452	2.866	1.821	1.834
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	18	62	871	53	63	43	47	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	38	0	0	152	48	12	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	25	0	0	12	0	0	10
Total Hourly Volume [veh/h]	69	818	13	62	1023	76	75	43	35	10	65	28
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	213	3	16	267	20	20	11	9	3	17	7
Total Analysis Volume [veh/h]	72	853	14	65	1067	79	78	45	36	10	68	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	25	0	9	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	37	37	3	37	37	7	7
g / C, Green / Cycle	0.06	0.62	0.62	0.06	0.62	0.62	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.04	0.32	0.32	0.10	0.06
s, saturation flow rate [veh/h]	1619	1800	1790	1619	1800	1757	1590	1751
c, Capacity [veh/h]	98	1117	1111	93	1111	1085	284	280
d1, Uniform Delay [s]	27.80	5.71	5.71	27.85	6.49	6.50	25.62	24.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.26	1.02	1.03	9.21	1.75	1.80	1.72	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.39	0.39	0.70	0.52	0.52	0.56	0.38
d, Delay for Lane Group [s/veh]	38.06	6.74	6.74	37.06	8.25	8.30	27.33	25.54
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.24	2.29	2.28	1.11	3.53	3.46	2.20	1.36
50th-Percentile Queue Length [ft/ln]	31.10	57.29	57.01	27.71	88.22	86.62	55.10	33.88
95th-Percentile Queue Length [veh/ln]	2.24	4.13	4.10	2.00	6.35	6.24	3.97	2.44
95th-Percentile Queue Length [ft/ln]	55.98	103.13	102.62	49.88	158.80	155.91	99.18	60.99



**Movement, Approach, & Intersection Results**

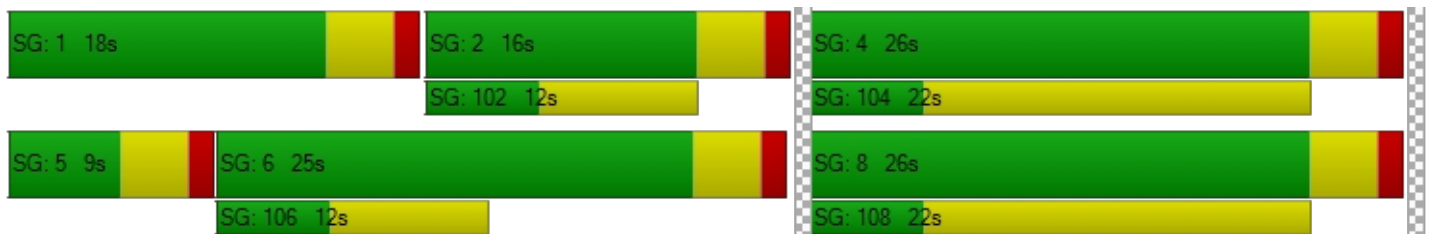
d_M, Delay for Movement [s/veh]	38.06	6.74	6.74	37.06	8.27	8.30	27.33	27.33	27.33	25.54	25.54	25.54
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.14			9.82			27.33			25.54		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.40											
Intersection LOS	B											
Intersection V/C	0.467											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.705			2.857			1.915			1.870		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	699			399			732			732		
d_b, Bicycle Delay [s]	12.71			19.24			12.07			12.07		
I_b,int, Bicycle LOS Score for Intersection	2.338			2.579			1.842			1.753		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	32.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.389

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	108	0	0	0	0	152	38	4	27	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	44	0	0	12	0	0	12
Total Hourly Volume [veh/h]	123	745	24	92	811	131	90	38	37	30	53	37
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	203	7	25	221	36	24	10	10	8	14	10
Total Analysis Volume [veh/h]	134	811	26	100	882	143	98	41	40	33	58	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	19	0	20	21	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	26	26	5	24	24	22	22	22	22
g / C, Green / Cycle	0.10	0.40	0.40	0.08	0.37	0.37	0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.08	0.23	0.23	0.06	0.29	0.29	2.01	0.03	0.32	0.03
s, saturation flow rate [veh/h]	1619	1800	1780	1619	1800	1714	69	1530	287	1530
c, Capacity [veh/h]	168	721	713	126	675	643	118	515	172	515
d1, Uniform Delay [s]	28.47	15.23	15.23	29.45	17.92	17.93	28.27	14.68	17.66	14.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.22	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.42	3.43	3.47	10.56	8.58	9.02	139.75	0.06	5.06	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.58	0.58	0.79	0.78	0.78	1.18	0.08	0.53	0.08
d, Delay for Lane Group [s/veh]	36.89	18.66	18.70	40.01	26.49	26.94	168.02	14.75	22.72	14.75
Lane Group LOS	D	B	B	D	C	C	F	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	2.34	5.05	5.01	1.84	7.84	7.55	6.35	0.38	1.11	0.38
50th-Percentile Queue Length [ft/ln]	58.38	126.36	125.17	45.93	196.06	188.86	158.83	9.55	27.79	9.55
95th-Percentile Queue Length [veh/ln]	4.20	8.74	8.68	3.31	12.44	12.06	11.40	0.69	2.00	0.69
95th-Percentile Queue Length [ft/ln]	105.09	218.54	216.91	82.68	310.88	301.54	284.97	17.18	50.03	17.18

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	36.89	18.68	18.70	40.01	26.68	26.94	168.02	168.02	14.75	22.72	22.72	14.75
Movement LOS	D	B	B	D	C	C	F	F	B	C	C	B
d_A, Approach Delay [s/veh]	21.20			27.90			133.77			20.29		
Approach LOS	C			C			F			C		
d_I, Intersection Delay [s/veh]	32.65											
Intersection LOS	C											
Intersection V/C	2.389											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	24.12	24.12	24.12
I_p,int, Pedestrian LOS Score for Intersection	2.723	2.902	2.127	2.046
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	462	523	677	677
d_b, Bicycle Delay [s]	19.23	17.72	14.22	14.22
I_b,int, Bicycle LOS Score for Intersection	2.367	2.524	1.875	1.796
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.367

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	23	755	1	19	805	19	79	29	25	21	16	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	108	0	0	27	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	5	0	0	6	0	0	5
Total Hourly Volume [veh/h]	23	863	1	19	832	14	79	29	19	21	16	13
Peak Hour Factor	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	241	0	5	232	4	22	8	5	6	4	4
Total Analysis Volume [veh/h]	26	963	1	21	929	16	88	32	21	23	18	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	40	40	2	40	40	7	7
g / C, Green / Cycle	0.03	0.67	0.67	0.03	0.66	0.66	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.27	0.27	0.01	0.26	0.26	0.09	0.03
s, saturation flow rate [veh/h]	1619	1800	1799	1619	1800	1789	1628	1717
c, Capacity [veh/h]	49	1197	1196	42	1188	1181	276	273
d1, Uniform Delay [s]	28.70	4.61	4.61	28.89	4.71	4.71	25.92	24.61
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.48	1.01	1.01	9.12	1.00	1.01	1.46	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.40	0.40	0.50	0.40	0.40	0.51	0.21
d, Delay for Lane Group [s/veh]	37.18	5.62	5.62	38.01	5.71	5.72	27.39	24.98
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	2.10	2.10	0.39	2.11	2.09	1.95	0.72
50th-Percentile Queue Length [ft/ln]	11.68	52.53	52.51	9.75	52.63	52.37	48.80	18.04
95th-Percentile Queue Length [veh/ln]	0.84	3.78	3.78	0.70	3.79	3.77	3.51	1.30
95th-Percentile Queue Length [ft/ln]	21.03	94.55	94.52	17.55	94.74	94.26	87.84	32.47

**Movement, Approach, & Intersection Results**

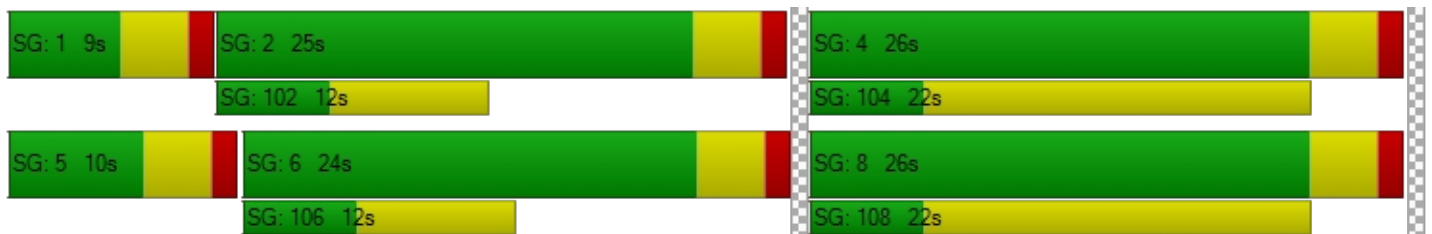
d_M, Delay for Movement [s/veh]	37.18	5.62	5.62	38.01	5.72	5.72	27.39	27.39	27.39	24.98	24.98	24.98
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.45			6.42			27.39			24.98		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.29											
Intersection LOS	A											
Intersection V/C	0.367											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.697			2.811			1.807			1.759		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.376			2.361			1.802			1.660		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	8.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	38	677	7	14	808	23	34	12	75	43	11	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	92	0	0	23	4	16	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	7	0	0	19	0	0	3
Total Hourly Volume [veh/h]	38	769	5	14	831	20	50	12	56	43	11	9
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	205	1	4	221	5	13	3	15	11	3	2
Total Analysis Volume [veh/h]	40	819	5	15	885	21	53	13	60	46	12	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	41	41	1	40	40	6	6
g / C, Green / Cycle	0.04	0.69	0.69	0.02	0.66	0.66	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.01	0.25	0.25	0.08	0.04
s, saturation flow rate [veh/h]	1619	1800	1796	1619	1800	1785	1671	1570
c, Capacity [veh/h]	68	1231	1228	32	1191	1181	247	253
d1, Uniform Delay [s]	28.29	3.90	3.90	29.15	4.60	4.60	26.41	25.54
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.03	0.74	0.74	10.63	0.93	0.94	1.62	0.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.59	0.34	0.34	0.47	0.38	0.38	0.51	0.27
d, Delay for Lane Group [s/veh]	36.32	4.63	4.64	39.78	5.54	5.54	28.04	26.10
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.69	1.51	1.51	0.30	1.97	1.96	1.77	0.91
50th-Percentile Queue Length [ft/ln]	17.20	37.87	37.81	7.44	49.26	48.92	44.20	22.63
95th-Percentile Queue Length [veh/ln]	1.24	2.73	2.72	0.54	3.55	3.52	3.18	1.63
95th-Percentile Queue Length [ft/ln]	30.97	68.17	68.05	13.38	88.66	88.06	79.56	40.73

**Movement, Approach, & Intersection Results**

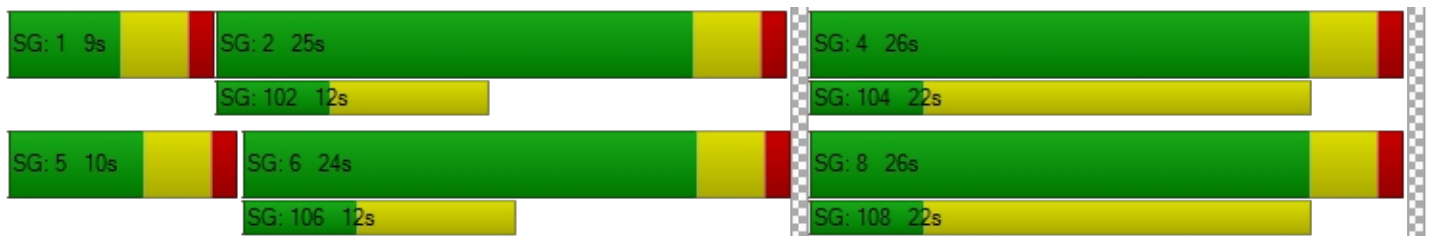
d_M, Delay for Movement [s/veh]	36.32	4.63	4.64	39.78	5.54	5.54	28.04	28.04	28.04	26.10	26.10	26.10
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.10			6.10			28.04			26.10		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.18											
Intersection LOS	A											
Intersection V/C	0.353											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.715			2.719			1.832			1.752		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.274			2.325			1.799			1.677		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	630	97	129	806	5	8	0	9	141	1	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	92	0	0	23	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	24	0	0	1	0	0	2	0	0	11
Total Hourly Volume [veh/h]	4	722	73	129	829	4	8	0	7	141	1	34
Peak Hour Factor	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	204	21	37	235	1	2	0	2	40	0	10
Total Analysis Volume [veh/h]	5	818	83	146	939	5	9	0	8	160	1	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	20	0	14	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	31	31	7	37	37	11	11	11
g / C, Green / Cycle	0.01	0.51	0.51	0.11	0.62	0.62	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.00	0.25	0.25	0.09	0.26	0.26	0.06	0.15	0.03
s, saturation flow rate [veh/h]	1619	1800	1742	1619	1800	1797	278	1076	1530
c, Capacity [veh/h]	11	920	891	182	1109	1107	141	310	271
d1, Uniform Delay [s]	29.69	9.62	9.62	26.00	5.99	5.99	21.20	23.91	20.86
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.36	1.92	1.99	8.06	1.20	1.20	0.38	1.35	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.50	0.50	0.80	0.43	0.43	0.12	0.52	0.14
d, Delay for Lane Group [s/veh]	55.05	11.54	11.61	34.07	7.19	7.19	21.58	25.26	21.11
Lane Group LOS	E	B	B	C	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.15	3.74	3.63	2.32	2.63	2.63	0.20	2.16	0.45
50th-Percentile Queue Length [ft/ln]	3.69	93.42	90.84	57.98	65.81	65.71	5.01	54.10	11.27
95th-Percentile Queue Length [veh/ln]	0.27	6.73	6.54	4.17	4.74	4.73	0.36	3.90	0.81
95th-Percentile Queue Length [ft/ln]	6.64	168.16	163.51	104.37	118.46	118.28	9.02	97.39	20.29

**Movement, Approach, & Intersection Results**

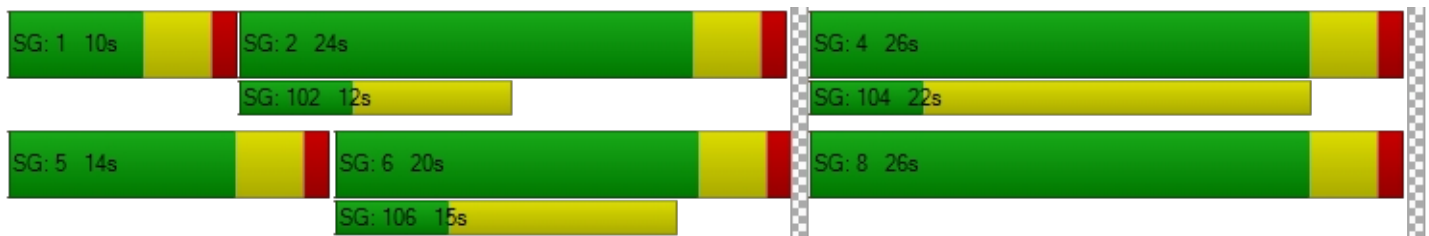
d_M, Delay for Movement [s/veh]	55.05	11.57	11.61	34.07	7.19	7.19	21.58	21.58	21.58	25.26	25.26	21.11
Movement LOS	E	B	B	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.81			10.79			21.58			24.45		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	12.53											
Intersection LOS	B											
Intersection V/C	0.494											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.679			1.713			2.087		
Crosswalk LOS	F			B			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			667			733			733		
d_b, Bicycle Delay [s]	16.14			13.34			12.04			12.04		
I_b,int, Bicycle LOS Score for Intersection	2.327			2.460			1.591			1.908		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	37.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	17	6	0	0	0	0	0	0	67
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	88	0	0	7	0	0	7	0	0	137
Total Hourly Volume [veh/h]	41	292	265	483	386	19	28	65	19	211	99	411
Peak Hour Factor	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	83	76	138	110	5	8	19	5	60	28	117
Total Analysis Volume [veh/h]	47	333	303	551	441	22	32	74	22	241	113	469
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	37	21	0	30	14	0	0	9	0	0	20	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	17	17	26	40	40	5	5	16
g / C, Green / Cycle	0.04	0.22	0.22	0.32	0.50	0.50	0.06	0.06	0.20
(v / s)_i Volume / Saturation Flow Rate	0.03	0.09	0.19	0.30	0.12	0.01	0.02	0.05	0.19
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1826	1837
c, Capacity [veh/h]	75	785	350	585	1804	805	109	110	368
d1, Uniform Delay [s]	37.79	27.05	30.24	26.39	11.47	10.21	36.01	37.33	31.75
k, delay calibration	0.11	0.50	0.50	0.31	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.37	1.68	23.69	18.49	0.32	0.06	1.47	18.30	14.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.63	0.42	0.87	0.94	0.24	0.03	0.29	0.87	0.96
d, Delay for Lane Group [s/veh]	46.16	28.73	53.93	44.88	11.79	10.27	37.48	55.64	46.39
Lane Group LOS	D	C	D	D	B	B	D	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.06	2.85	7.73	12.65	2.16	0.20	0.63	2.38	8.03
50th-Percentile Queue Length [ft/ln]	26.59	71.27	193.27	316.20	54.00	4.97	15.77	59.56	200.77
95th-Percentile Queue Length [veh/ln]	1.91	5.13	12.29	18.48	3.89	0.36	1.14	4.29	12.68
95th-Percentile Queue Length [ft/ln]	47.87	128.29	307.27	462.01	97.20	8.94	28.38	107.22	316.95

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	46.16	28.73	53.93	44.88	11.79	10.27	37.48	55.64	55.64	46.39	46.39	0.00
Movement LOS	D	C	D	D	B	B	D	E	E	D	D	
d_A, Approach Delay [s/veh]	41.11			29.74			51.10			46.39		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	37.26											
Intersection LOS	D											
Intersection V/C	0.737											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	425			250			125			400		
d_b, Bicycle Delay [s]	24.83			30.65			35.18			25.63		
I_b,int, Bicycle LOS Score for Intersection	2.196			2.402			1.782			2.144		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	24.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.564

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	5	163	17	227	359	505	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	17	0	0	67	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	57	0	0	5	0	0	55
Total Hourly Volume [veh/h]	9	5	4	163	17	170	359	522	16	5	618	166
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	45	5	47	99	144	4	1	171	46
Total Analysis Volume [veh/h]	10	6	4	180	19	188	397	577	18	6	684	184
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	26	35	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	18	34	34	1	16	16
g / C, Green / Cycle	0.38	0.38	0.38	0.25	0.46	0.46	0.01	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.12	0.22	0.16	0.01	0.00	0.19	0.11
s, saturation flow rate [veh/h]	1023	1278	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	456	571	606	444	1648	736	17	794	354
d1, Uniform Delay [s]	15.52	17.88	16.59	27.38	13.24	11.25	36.97	28.21	25.82
k, delay calibration	0.50	0.50	0.50	0.12	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	1.68	1.33	7.08	0.13	0.01	11.89	2.91	1.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.04	0.35	0.31	0.89	0.35	0.02	0.35	0.86	0.52
d, Delay for Lane Group [s/veh]	15.71	19.56	17.92	34.45	13.37	11.27	48.86	31.13	27.00
Lane Group LOS	B	B	B	C	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.23	2.73	2.38	7.41	2.93	0.16	0.16	5.97	2.89
50th-Percentile Queue Length [ft/ln]	5.70	68.32	59.54	185.26	73.25	3.91	4.08	149.13	72.37
95th-Percentile Queue Length [veh/ln]	0.41	4.92	4.29	11.87	5.27	0.28	0.29	9.97	5.21
95th-Percentile Queue Length [ft/ln]	10.26	122.98	107.18	296.87	131.85	7.04	7.35	249.27	130.27

**Movement, Approach, & Intersection Results**

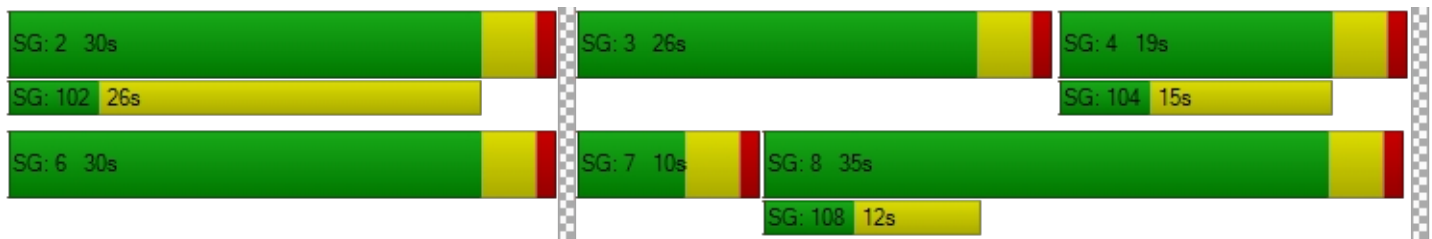
d_M, Delay for Movement [s/veh]	15.71	15.71	15.71	19.56	19.56	17.92	34.45	13.37	11.27	48.86	31.13	27.00
Movement LOS	B	B	B	B	B	B	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	15.71			18.76			21.77			30.38		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	24.52											
Intersection LOS	C											
Intersection V/C	0.564											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.07	29.07	29.07	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.742	2.367	2.781	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	826	400
d_b, Bicycle Delay [s]	16.03	16.03	12.93	24.03
I_b,int, Bicycle LOS Score for Intersection	1.594	2.292	2.382	2.326
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	18.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	67	0	0	17	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	21	0	0	5
Total Hourly Volume [veh/h]	57	840	152	30	647	0	4	30	61	101	17	16
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	227	41	8	174	0	1	8	16	27	5	4
Total Analysis Volume [veh/h]	61	906	164	32	698	0	4	32	66	109	18	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	22	0	9	19	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	50	50	3	49	49	5	5	7	7
g / C, Green / Cycle	0.05	0.62	0.62	0.03	0.61	0.61	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.48	0.10	0.02	0.37	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	1810	1750
c, Capacity [veh/h]	87	1178	1001	61	1150	978	118	101	154	149
d1, Uniform Delay [s]	37.62	11.08	6.45	38.14	9.87	0.00	35.95	36.77	35.74	34.27
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.88	4.87	0.35	6.97	2.38	0.00	1.45	7.02	5.92	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.77	0.16	0.53	0.61	0.00	0.31	0.66	0.71	0.24
d, Delay for Lane Group [s/veh]	47.51	15.95	6.80	45.12	12.26	0.00	37.39	43.79	41.66	35.08
Lane Group LOS	D	B	A	D	B	A	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	11.17	1.11	0.72	7.22	0.00	0.71	1.43	2.28	0.66
50th-Percentile Queue Length [ft/ln]	34.86	279.22	27.68	18.11	180.49	0.00	17.70	35.87	57.05	16.45
95th-Percentile Queue Length [veh/ln]	2.51	16.65	1.99	1.30	11.63	0.00	1.27	2.58	4.11	1.18
95th-Percentile Queue Length [ft/ln]	62.75	416.24	49.83	32.60	290.65	0.00	31.85	64.57	102.68	29.61

**Movement, Approach, & Intersection Results**

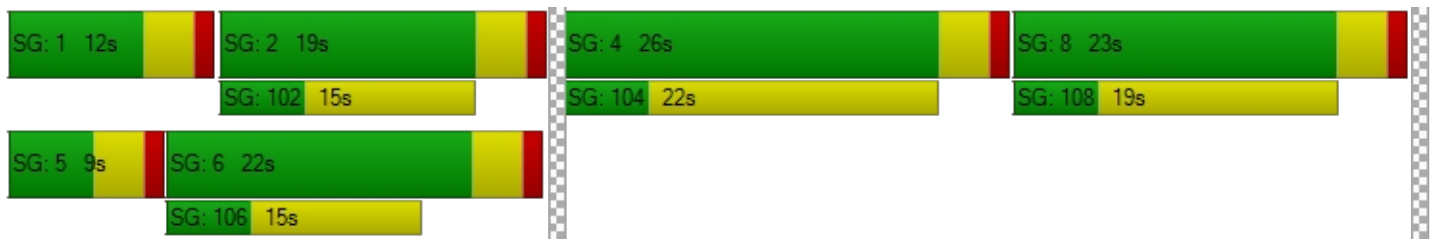
d_M, Delay for Movement [s/veh]	47.51	15.95	6.80	45.12	12.26	0.00	37.39	37.39	43.79	41.66	35.08	35.08
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	16.33			13.70			41.53			40.06		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.26											
Intersection LOS	B											
Intersection V/C	0.596											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.56	31.56	31.56	31.56
I_p,int, Pedestrian LOS Score for Intersection	2.705	2.620	2.031	2.082
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	449	374	474	549
d_b, Bicycle Delay [s]	24.08	26.46	23.31	21.08
I_b,int, Bicycle LOS Score for Intersection	3.510	2.764	1.763	1.805
Bicycle LOS	D	C	A	A

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.418

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1004	197	41	760	0	0	0	9	197	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	67	0	0	17	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	49	0	0	0	0	0	2	0	0	11
Total Hourly Volume [veh/h]	30	1071	148	41	777	0	0	0	7	197	5	32
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	296	41	11	214	0	0	0	2	54	1	9
Total Analysis Volume [veh/h]	33	1182	163	45	858	0	0	0	8	217	6	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	25	25	9	20	0	0	10	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	44	44	3	44	44	1	1	7	7	7
g / C, Green / Cycle	0.03	0.62	0.62	0.04	0.63	0.63	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.33	0.10	0.02	0.23	0.23	0.00	0.00	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	65	2243	1001	79	1193	1193	23	20	175	175	156
d1, Uniform Delay [s]	33.26	7.53	5.64	32.95	6.28	6.28	0.00	34.46	30.56	30.56	29.31
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.05	0.89	0.35	6.32	0.84	0.84	0.00	13.19	3.84	3.82	0.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.53	0.16	0.57	0.36	0.36	0.00	0.41	0.64	0.64	0.22
d, Delay for Lane Group [s/veh]	39.31	8.42	5.99	39.27	7.13	7.13	0.00	47.65	34.40	34.38	30.04
Lane Group LOS	D	A	A	D	A	A	A	D	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.64	4.20	0.91	0.87	2.67	2.67	0.00	0.20	1.93	1.94	0.56
50th-Percentile Queue Length [ft/ln]	16.10	105.08	22.70	21.65	66.84	66.84	0.00	5.08	48.37	48.45	13.96
95th-Percentile Queue Length [veh/ln]	1.16	7.57	1.63	1.56	4.81	4.81	0.00	0.37	3.48	3.49	1.01
95th-Percentile Queue Length [ft/ln]	28.98	189.14	40.86	38.97	120.32	120.32	0.00	9.14	87.07	87.22	25.13



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	39.31	8.42	5.99	39.27	7.13	7.13	0.00	0.00	47.65	34.39	34.38	30.04
Movement LOS	D	A	A	D	A	A	A	A	D	C	C	C
d_A, Approach Delay [s/veh]	8.87			8.73			47.65			33.80		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	11.47											
Intersection LOS	B											
Intersection V/C	0.418											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.704			0.000			2.264		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	599			456			171			627		
d_b, Bicycle Delay [s]	17.21			20.89			29.32			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.737			2.305			1.576			2.003		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.418

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	153	260	0	0	831	137	0	0	0	101	0	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	17	0	0	0	0	0	0	67
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	34	0	0	0	0	0	259
Total Hourly Volume [veh/h]	153	260	0	0	848	103	0	0	0	101	0	777
Peak Hour Factor	0.8970	0.8970	1.0000	1.0000	0.8970	0.8970	1.0000	1.0000	1.0000	0.8970	1.0000	0.8970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	72	0	0	236	29	0	0	0	28	0	217
Total Analysis Volume [veh/h]	171	290	0	0	945	115	0	0	0	113	0	866
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	21	0	0	9	0	0	0	0	39	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.60		0.08
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.26		0.06
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	218	2827	2151		155
d1, Uniform Delay [s]	25.70	1.56	6.69		26.84
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	6.12	0.07	0.65		6.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.78	0.10	0.44		0.73
d, Delay for Lane Group [s/veh]	31.83	1.63	7.34		33.32
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.60	0.15	2.66		1.77
50th-Percentile Queue Length [ft/ln]	65.03	3.66	66.46		44.31
95th-Percentile Queue Length [veh/ln]	4.68	0.26	4.79		3.19
95th-Percentile Queue Length [ft/ln]	117.05	6.58	119.63		79.76

**Movement, Approach, & Intersection Results**

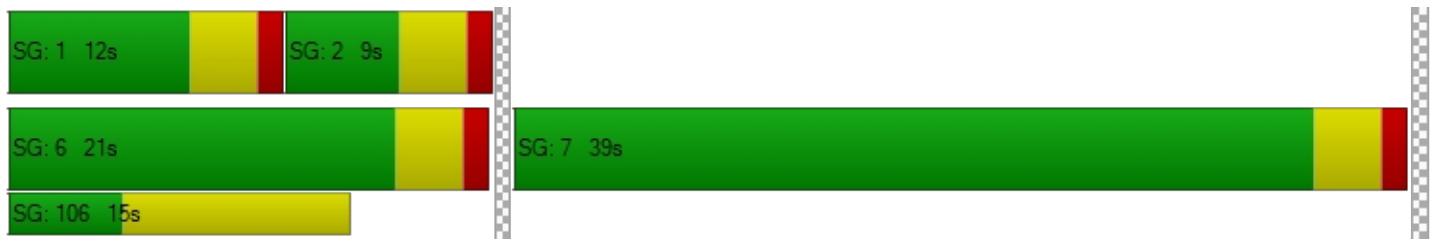
d_M, Delay for Movement [s/veh]	31.83	1.63	0.00	0.00	7.34	0.00	0.00	0.00	0.00	0.00	33.32	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	12.83				7.34				0.00		33.32		
Approach LOS	B				A				A		C		
d_I, Intersection Delay [s/veh]	10.94												
Intersection LOS	B												
Intersection V/C	0.418												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.958	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	566		166		0		1165	
d_b, Bicycle Delay [s]	15.45		25.25		30.04		5.24	
I_b,int, Bicycle LOS Score for Intersection	1.940		2.339		4.132		1.560	
Bicycle LOS	A		B		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	22.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.596

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↔			↔↑↑			↔↔↔					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	127	664	265	0	112	0	337	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	17	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	32	0	0	0	0	0	84	0	0	0
Total Hourly Volume [veh/h]	0	301	95	681	265	0	112	0	253	0	0	0
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	82	26	185	72	0	30	0	69	0	0	0
Total Analysis Volume [veh/h]	0	327	103	740	288	0	122	0	275	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	36	48	0	12	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	14	27	44	8	8	
g / C, Green / Cycle	0.23	0.44	0.74	0.13	0.13	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.41	0.08	0.07	0.10	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	824	803	2671	233	368	
d1, Uniform Delay [s]	19.72	15.73	2.24	24.49	25.27	
k, delay calibration	0.50	0.28	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.43	11.25	0.08	1.82	3.04	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.40	0.92	0.11	0.52	0.75	
d, Delay for Lane Group [s/veh]	21.15	26.98	2.32	26.31	28.31	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	1.96	10.53	0.26	1.64	1.93	
50th-Percentile Queue Length [ft/ln]	48.94	263.33	6.52	41.11	48.28	
95th-Percentile Queue Length [veh/ln]	3.52	15.86	0.47	2.96	3.48	
95th-Percentile Queue Length [ft/ln]	88.10	396.40	11.73	74.00	86.90	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	21.15	0.00	26.98	2.32	0.00	26.31	0.00	28.31	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	21.15			20.07			27.69			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	22.00											
Intersection LOS	C											
Intersection V/C	0.596											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.126		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			1465			266			0		
d_b, Bicycle Delay [s]	22.57			2.15			22.57			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.829			2.408			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	11	0	0	11	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	16	72	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	0	16	83	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	4	22	0	1
Total Analysis Volume [veh/h]	31	0	17	87	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.30	0.00	9.35	8.46
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.81	0.81	0.29	0.29
d_A, Approach Delay [s/veh]	0.00		1.19		8.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.14					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type: Two-way stop  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 9.4  
 Level Of Service: A  
 Volume to Capacity (v/c): 0.079

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	16	56	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	25	0	16	67	0	0	0	0	0	0	4
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	0	4	18	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	26	0	16	71	0	0	0	0	0	0	4
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.02	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.08	9.16	8.42	9.08	9.45	8.75	7.23	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.09	0.32	0.32	0.32	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.25	2.25	2.25	7.91	7.91	7.91	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.16			9.38			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.01											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	7	9	48	0	0	0	0	27	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	23	7	9	59	0	0	0	0	27	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	2	2	16	0	0	0	0	7	0	1
Total Analysis Volume [veh/h]	0	24	7	9	62	0	0	0	0	28	0	2
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	7.27	0.00	0.00	9.14	9.63	8.57	9.27	9.75	8.56
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.43	0.43	0.43	0.00	0.00	0.00	2.64	2.64	2.64
d_A, Approach Delay [s/veh]	0.00			0.92			9.11			9.22		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.59											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	254	209	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	17	71	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	271	280	0	0	4
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	71	74	0	0	1
Total Analysis Volume [veh/h]	16	285	295	0	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.85	0.00	0.00	0.00	0.00	9.83
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.95	0.95	0.00	0.00	0.00	0.40
d_A, Approach Delay [s/veh]	0.42		0.00		9.83	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.27					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	254	0	0	209	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	32	16	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	290	0	32	225	0	8
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	76	0	8	59	0	2
Total Analysis Volume [veh/h]	305	0	32	237	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.91	0.00	0.00	9.92
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.08	0.08	0.00	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.94	1.94	0.00	0.82
d_A, Approach Delay [s/veh]	0.00		0.94		9.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.57					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	5.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.215

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	254	0	0	209	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	52	54	0	13	8	2	0	9	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	2	0	0	2	0	0	0
Total Hourly Volume [veh/h]	36	306	40	0	222	6	2	0	7	14	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	81	11	0	58	2	1	0	2	4	0	0
Total Analysis Volume [veh/h]	38	322	42	0	234	6	2	0	7	15	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	28	0	9	26	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	47	0	44	1	1
g / C, Green / Cycle	0.04	0.78	0.00	0.74	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.02	0.21	0.00	0.13	0.01	0.01
s, saturation flow rate [veh/h]	1714	1764	1714	1792	1752	1674
c, Capacity [veh/h]	71	1373	3	1324	109	154
d1, Uniform Delay [s]	28.27	1.87	0.00	2.37	29.00	29.11
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.18	0.47	0.00	0.30	0.32	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.54	0.27	0.00	0.18	0.08	0.10
d, Delay for Lane Group [s/veh]	34.45	2.34	0.00	2.67	29.32	29.38
Lane Group LOS	C	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.61	0.23	0.00	0.51	0.13	0.22
50th-Percentile Queue Length [ft/ln]	15.14	5.77	0.00	12.79	3.29	5.39
95th-Percentile Queue Length [veh/ln]	1.09	0.42	0.00	0.92	0.24	0.39
95th-Percentile Queue Length [ft/ln]	27.25	10.39	0.00	23.02	5.92	9.70

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	34.45	2.34	2.34	0.00	2.67	2.67	29.32	29.32	29.32	29.38	29.38	29.38
Movement LOS	C	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.38			2.67			29.32			29.38		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.27											
Intersection LOS	A											
Intersection V/C	0.215											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.291	2.111	1.726	1.730
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	799	732	632	632
d_b, Bicycle Delay [s]	10.83	12.07	14.05	14.05
I_b,int, Bicycle LOS Score for Intersection	2.246	1.959	1.578	1.584
Bicycle LOS	B	A	A	A

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	62	80	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	4	16	32	127	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	4	16	94	207	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	4	25	54	4
Total Analysis Volume [veh/h]	4	4	17	99	218	17
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.73	9.46	7.71	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.85	0.85	0.96	0.96	0.00	0.00
d_A, Approach Delay [s/veh]	10.09		1.13		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.59					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	27	26	26	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	2	16	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	36	28	42	4	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	7	11	1	0
Total Analysis Volume [veh/h]	0	38	29	44	4	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	0.00	8.94	8.54
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.33	0.33
d_A, Approach Delay [s/veh]	0.00		0.00		8.94	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	7	0	0	30	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	16	0	9	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	16	0	39	4	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	4	0	10	1	0
Total Analysis Volume [veh/h]	45	17	0	41	4	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.32	0.00	8.97	8.55
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.33	0.33
d_A, Approach Delay [s/veh]	0.00		0.00		8.97	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.34					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	7	0	0	30	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	6	0	13	0	0	0	0	2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	59	6	0	43	0	0	0	0	2	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	2	0	11	0	0	0	0	1	0	0
Total Analysis Volume [veh/h]	0	62	6	0	45	0	0	0	0	2	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.33	0.00	0.00	9.12	9.61	8.49	9.13	9.60	8.59
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.17	0.17
d_A, Approach Delay [s/veh]	0.00			0.00			9.08			9.13		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.16											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	79	82	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	50	201	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	129	283	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	34	74	5
Total Analysis Volume [veh/h]	5	0	0	136	298	19
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.01	9.21	7.87	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.63	0.63	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.01		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.12					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	56	45	0	0	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	15	12	0	0	2
Total Analysis Volume [veh/h]	34	59	47	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	0.00	9.51	8.53
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.66	1.66	0.00	0.00	0.59	0.59
d_A, Approach Delay [s/veh]	2.68		0.00		8.53	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.15					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	32	8	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	88	53	0	0	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	23	14	0	0	2
Total Analysis Volume [veh/h]	26	93	56	0	0	6
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	0.00	9.65	8.56
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	0.45	0.45
d_A, Approach Delay [s/veh]	1.60		0.00		8.56	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.34					
Intersection LOS	A					



## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 7 Existing AM + P

Report File: C:\...\Existing AM + P.pdf

4/22/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	634	809	308	563	689	1094	1048	599	375	691	6810

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	146	1262	88	550	987	156	190	194	58	49	243	350	4273

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1435	23	56	1000	10	63	2587

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	134	1235	35	168	761	65	99	59	41	48	75	117	2837

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	19	3	11	11	0	10	9	247	60	39	220	10	639

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	68	169	34	6	90	5	5	120	113	77	167	19	873

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	224	55	54	181	41	164	719

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	17	8	10	6	12	26	5	122	37	8	220	9	480

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	41	4	1	97	219	64	426

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	5	38	5	28	18	13	1	127	6	3	284	74	602

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	392	1167	1259	1012	423	5	486	4744

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1030	406	485	1197	530	4	523	4175

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	5	1254	4	80	1435	190	92	0	32	0	0	99	3191

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	99	902	12	200	1161	126	169	75	54	10	117	188	3113

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	69	818	18	62	1023	101	75	43	47	10	65	38	2369

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	123	745	32	92	811	175	90	38	49	30	53	49	2287

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	23	863	1	19	832	19	79	29	25	21	16	18	1945

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	38	769	7	14	831	27	50	12	75	43	11	12	1889

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	722	97	129	829	5	8	0	9	141	1	45	1990

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	41	292	353	483	386	26	28	65	26	211	99	548	2558

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	5	163	17	227	359	522	21	5	618	221	2172

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	57	840	203	30	647	0	4	30	82	101	17	21	2032

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	30	1071	197	41	777	0	0	0	9	197	5	43	2370

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	153	260	848	137	101	1036	2535

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	301	127	681	265	112	337	1823

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	29	0	16	83	0	4	132

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume	
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
27	Laurel Ave/Driveway 2	0	25	0	16	67	0	0	0	0	0	0	0	4	112

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	23	7	9	59	0	0	0	0	27	0	2	127

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	16	271	280	0	4	571	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	290	0	32	225	8	555	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	36	306	54	0	222	8	2	0	9	14	0	0	651

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	4	4	16	94	207	16	341

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	36	28	42	4	0	110

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	43	16	0	39	4	0	102

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	59	6	0	43	0	0	0	0	2	0	0	110

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	5	0	0	129	283	18	435

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	32	56	45	0	0	8	141

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	25	88	53	0	0	6	172

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## Bloomington Business Park Specific Plan

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Scenario 7 Existing AM + P

Report File: C:\...\PLD Existing AM + P.pdf

7/12/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.644	36.0	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	0.504	30.8	C
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.337	4.4	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.396	17.2	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	WB Thru	0.339	9.4	A
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.435	11.4	B
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.088	13.8	B
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.024	11.9	B
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.073	10.9	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	WB Thru	0.282	8.8	A
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	0.998	56.8	E
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.827	37.9	D
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.483	8.1	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.618	30.1	C
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.429	11.1	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	1.644	24.1	C
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.361	8.3	A
			HCM 6th				



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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.343	8.0	A
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.478	12.4	B
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	EB Thru	0.732	36.7	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.552	24.5	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.574	17.8	B
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.406	11.4	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.415	10.9	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	EBR2	0.590	21.8	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.002	8.4	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	SB Thru	0.041	9.2	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.013	8.9	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.003	9.6	A
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.005	9.8	A
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.177	3.5	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.003	9.8	A
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.002	8.9	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.002	8.8	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.001	8.9	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.003	9.9	A
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.004	8.5	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.003	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	36.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.644

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	615	801	308	563	657	1094	1048	0	519	375	0	691
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	3	0	0	13	0	0	0	34	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	77	0	0	274	0	0	138	0	0	173
Total Hourly Volume [veh/h]	623	804	231	563	670	820	1048	0	415	375	0	518
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	1.0000	0.9530	0.9530	1.0000	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	163	211	61	148	176	215	275	0	109	98	0	136
Total Analysis Volume [veh/h]	654	844	242	591	703	860	1100	0	435	393	0	544
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	2		3			3			1			
v_ci, Inbound Pedestrian Volume crossing mi	1		3			3			2			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	39	21	38	38	38
g / C, Green / Cycle	0.21	0.36	0.19	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.16	0.17	0.14	0.31	0.11
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	729	1855	672	1772	1199	1199
d1, Uniform Delay [s]	42.41	27.01	43.21	27.50	34.72	26.85
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.27	0.81	3.95	0.67	3.32	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.90	0.45	0.88	0.40	0.92	0.33
d, Delay for Lane Group [s/veh]	46.68	27.82	47.16	28.17	38.04	27.01
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.82	5.61	8.04	4.72	13.07	3.48
50th-Percentile Queue Length [ft/ln]	220.41	140.13	200.96	117.89	326.67	87.11
95th-Percentile Queue Length [veh/ln]	13.69	9.49	12.69	8.28	18.99	6.27
95th-Percentile Queue Length [ft/ln]	342.15	237.19	317.21	206.92	474.87	156.81

**Movement, Approach, & Intersection Results**

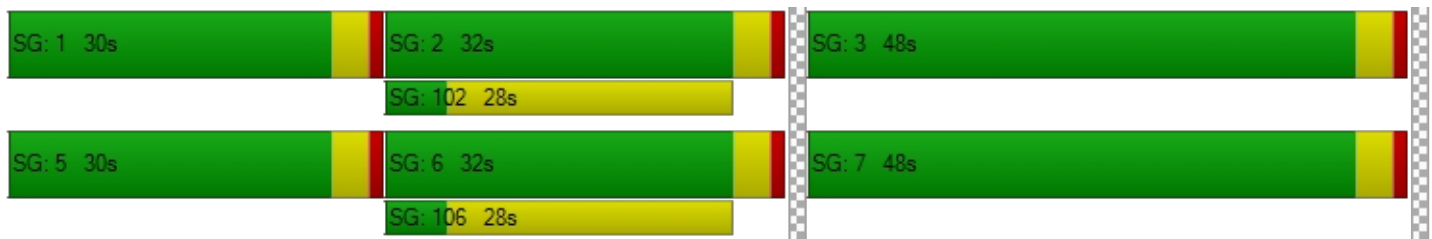
d_M, Delay for Movement [s/veh]	46.68	27.82	0.00	47.16	28.17	0.00	38.04	0.00	0.00	27.01	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	36.05			36.84			38.04			27.01		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	35.97											
Intersection LOS	D											
Intersection V/C	0.644											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			46.34			46.34		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.082			2.810		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	509			509			800			800		
d_b, Bicycle Delay [s]	30.53			30.53			19.77			19.77		
I_b,int, Bicycle LOS Score for Intersection	2.384			2.271			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.504

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	146	1235	88	550	875	156	190	194	58	49	243	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	0	0	47	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	39	0	0	15	0	0	88
Total Hourly Volume [veh/h]	146	1247	66	550	922	117	190	194	43	49	243	262
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	333	18	147	247	31	51	52	11	13	65	70
Total Analysis Volume [veh/h]	156	1334	71	588	986	125	203	207	46	52	260	280
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	34	40	0	30	36	0	15	42	0	13	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	64	64	23	80	80	9	17	17	4	12	39
g / C, Green / Cycle	0.06	0.51	0.51	0.19	0.64	0.64	0.07	0.14	0.14	0.03	0.10	0.32
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.20	0.17	0.21	0.21	0.06	0.06	0.03	0.01	0.07	0.10
s, saturation flow rate [veh/h]	3514	5176	1838	3514	3618	1793	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	221	2660	945	661	2313	1146	260	491	219	120	347	903
d1, Uniform Delay [s]	57.47	18.46	18.47	49.51	10.24	10.24	56.89	49.53	48.07	59.19	55.06	32.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.12	0.43	1.21	4.38	0.37	0.74	5.04	0.58	0.47	2.44	3.25	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.39	0.39	0.89	0.32	0.32	0.78	0.42	0.21	0.43	0.75	0.31
d, Delay for Lane Group [s/veh]	61.59	18.89	19.68	53.88	10.61	10.99	61.94	50.11	48.54	61.62	58.31	32.63
Lane Group LOS	E	B	B	D	B	B	E	D	D	E	E	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.47	5.75	6.34	9.18	4.40	4.49	3.26	2.94	1.28	0.83	4.02	3.12
50th-Percentile Queue Length [ft/ln]	61.85	143.77	158.50	229.52	109.99	112.20	81.58	73.58	32.03	20.65	100.60	78.11
95th-Percentile Queue Length [veh/ln]	4.45	9.68	10.47	14.15	7.84	7.96	5.87	5.30	2.31	1.49	7.24	5.62
95th-Percentile Queue Length [ft/ln]	111.34	242.09	261.74	353.75	195.99	199.06	146.85	132.44	57.65	37.17	181.08	140.59

**Movement, Approach, & Intersection Results**

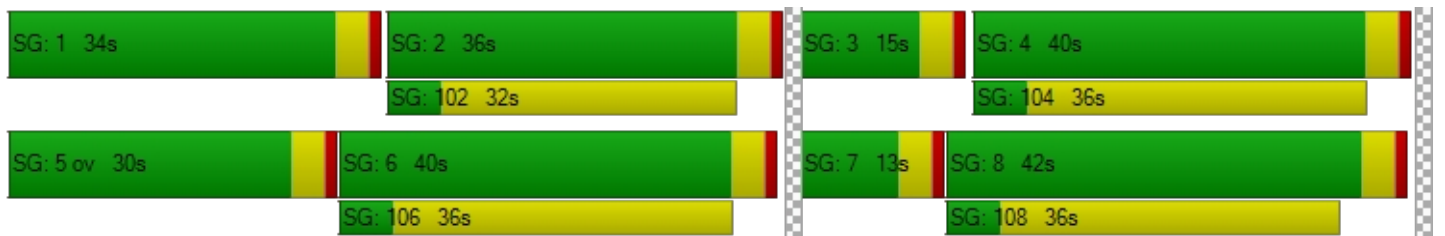
d_M, Delay for Movement [s/veh]	61.59	19.07	19.68	53.88	10.70	10.99	61.94	50.11	48.54	61.62	58.31	32.63
Movement LOS	E	B	B	D	B	B	E	D	D	E	E	C
d_A, Approach Delay [s/veh]	23.35			25.67			55.22			46.45		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	30.81											
Intersection LOS	C											
Intersection V/C	0.504											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.83	53.83	53.83	53.83
I_p,int, Pedestrian LOS Score for Intersection	3.382	3.448	2.956	3.275
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	576	512	608	576
d_b, Bicycle Delay [s]	31.69	34.61	30.29	31.69
I_b,int, Bicycle LOS Score for Intersection	2.213	2.516	1.948	2.121
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.337

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1408	23	56	888	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	47	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1420	17	56	935	10	47
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	374	4	15	246	3	12
Total Analysis Volume [veh/h]	1496	18	59	985	11	50
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	24	0	9	33	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	51	3	59	4	4
g / C, Green / Cycle	0.73	0.73	0.05	0.84	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.29	0.01	0.02	0.19	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3763	1174	177	4320	93	83
d1, Uniform Delay [s]	3.67	2.64	32.15	1.18	31.75	32.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.02	1.09	0.12	0.56	6.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.40	0.02	0.33	0.23	0.12	0.60
d, Delay for Lane Group [s/veh]	3.99	2.66	33.24	1.31	32.31	39.44
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.15	0.03	0.50	0.18	0.19	0.96
50th-Percentile Queue Length [ft/ln]	28.86	0.87	12.38	4.48	4.68	24.07
95th-Percentile Queue Length [veh/ln]	2.08	0.06	0.89	0.32	0.34	1.73
95th-Percentile Queue Length [ft/ln]	51.94	1.57	22.29	8.07	8.42	43.33



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.99	2.66	33.24	1.31	32.31	39.44
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	3.97		3.11		38.15	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.43					
Intersection LOS	A					
Intersection V/C	0.337					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.032	2.182
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	828	942
d_b, Bicycle Delay [s]	17.89	12.03	9.80
I_b,int, Bicycle LOS Score for Intersection	2.396	2.134	1.560
Bicycle LOS	B	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.396

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1235	35	56	761	65	99	59	41	48	75	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	47	0	0	0	0	0	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	16	0	0	10	0	0	26
Total Hourly Volume [veh/h]	134	1235	26	103	761	49	99	59	31	48	75	76
Peak Hour Factor	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	331	7	28	204	13	27	16	8	13	20	20
Total Analysis Volume [veh/h]	144	1324	28	110	816	53	106	63	33	51	80	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	11	40	0	11	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	56	56	5	56	56	7	10	10	4	7	7
g / C, Green / Cycle	0.06	0.62	0.62	0.05	0.62	0.62	0.07	0.11	0.11	0.04	0.07	0.07
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.02	0.03	0.16	0.16	0.06	0.02	0.02	0.03	0.02	0.05
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1841	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	3205	1000	187	2228	1134	137	394	176	75	270	121
d1, Uniform Delay [s]	41.85	8.79	6.65	41.73	7.91	7.92	40.94	36.44	36.55	42.64	39.47	40.64
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.96	0.39	0.05	2.94	0.28	0.55	9.05	0.19	0.51	10.37	0.60	6.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.72	0.41	0.03	0.59	0.26	0.26	0.78	0.16	0.19	0.68	0.30	0.67
d, Delay for Lane Group [s/veh]	46.81	9.18	6.71	44.67	8.20	8.47	49.98	36.63	37.06	53.01	40.07	46.93
Lane Group LOS	D	A	A	D	A	A	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.69	4.04	0.20	1.26	2.38	2.51	2.63	0.63	0.68	1.32	0.85	1.94
50th-Percentile Queue Length [ft/ln]	42.35	100.88	5.07	31.47	59.40	62.86	65.63	15.83	16.99	33.10	21.31	48.52
95th-Percentile Queue Length [veh/ln]	3.05	7.26	0.36	2.27	4.28	4.53	4.73	1.14	1.22	2.38	1.53	3.49
95th-Percentile Queue Length [ft/ln]	76.22	181.59	9.12	56.64	106.93	113.14	118.14	28.49	30.57	59.58	38.35	87.34

**Movement, Approach, & Intersection Results**

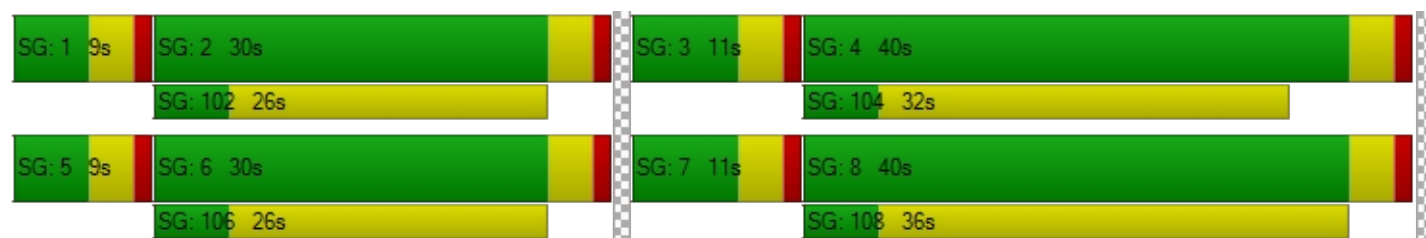
d_M, Delay for Movement [s/veh]	46.81	9.18	6.71	44.67	8.28	8.47	49.98	36.63	37.06	53.01	40.07	46.93
Movement LOS	D	A	A	D	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	12.76			12.38			43.71			45.81		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.22											
Intersection LOS	B											
Intersection V/C	0.396											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.125	3.058	2.551	2.564
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	799	799
d_b, Bicycle Delay [s]	22.80	22.80	16.24	16.24
I_b,int, Bicycle LOS Score for Intersection	2.387	2.107	1.735	1.756
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.339

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	5	3	3	11	0	10	9	177	3	8	203	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	4	0	0	0	0	30	24	13	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	3	7	11	0	10	9	207	27	21	210	10
Peak Hour Factor	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	2	3	0	3	3	61	8	6	61	3
Total Analysis Volume [veh/h]	13	4	8	13	0	12	11	242	32	25	246	12
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	708	722	844	835
Degree of Utilization, x	0.04	0.03	0.34	0.34

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.11	0.11	1.50	1.51
95th-Percentile Queue Length [ft]	2.74	2.69	37.41	37.66
Approach Delay [s/veh]	8.27	8.17	9.42	9.51
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.36			
Intersection LOS	A			



**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	2	2	0	7	0	0	17	16	7	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	167	32	6	81	5	5	98	90	68	145	19
Peak Hour Factor	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	47	9	2	23	1	1	27	25	19	41	5
Total Analysis Volume [veh/h]	70	187	36	7	91	6	6	110	101	76	162	21
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	674	633	696	670
Degree of Utilization, x	0.43	0.16	0.31	0.39

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	2.21	0.58	1.33	1.83
95th-Percentile Queue Length [ft]	55.15	14.61	33.26	45.67
Approach Delay [s/veh]	12.39	9.80	10.50	11.73
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.42			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.088

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↶		↷		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	208	39	22	177	37	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	7	15	2	2	53
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	215	46	37	179	39	90
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	13	10	49	11	25
Total Analysis Volume [veh/h]	236	50	41	196	43	99
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.09	0.13
d_M, Delay for Movement [s/veh]	0.00	0.00	7.89	0.00	13.84	11.08
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.10	0.10	0.81	0.81
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.46	2.46	20.23	20.23
d_A, Approach Delay [s/veh]	0.00		1.36		11.92	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.03					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	8	10	6	12	26	5	110	6	8	172	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	0	0	0	6	13	0	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	8	10	6	12	26	5	116	19	8	192	9
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	3	2	3	7	1	30	5	2	50	2
Total Analysis Volume [veh/h]	13	8	10	6	13	27	5	121	20	8	200	9
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.01	0.01	0.01	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	11.87	11.72	9.19	11.65	11.84	9.64	7.63	0.00	0.00	7.49	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.15	0.21	0.21	0.21	0.01	0.01	0.01	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	3.85	3.85	3.85	5.28	5.28	5.28	0.27	0.27	0.27	0.41	0.41	0.41
d_A, Approach Delay [s/veh]	10.97			10.53			0.26			0.28		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.10											
Intersection LOS	B											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.073

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	26	4	1	61	76	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	17	60	25
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	4	1	78	136	31
Peak Hour Factor	0.6840	0.6840	0.6840	0.6840	0.6840	0.6840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	1	0	29	50	11
Total Analysis Volume [veh/h]	48	6	1	114	199	45
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.90	9.83	7.70	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.49	6.49	0.06	0.06	0.00	0.00
d_A, Approach Delay [s/veh]	10.78		0.07		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.43					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	⊕			⊕			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	7	0	0	0	25	0	0	92	24
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	38	5	21	18	13	1	97	6	3	157	41
Peak Hour Factor	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	12	2	7	6	4	0	31	2	1	50	13
Total Analysis Volume [veh/h]	6	49	6	27	23	17	1	124	8	4	201	52
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	741	748	712	827	726	848
Degree of Utilization, x	0.08	0.09	0.18	0.01	0.28	0.06

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.27	0.29	0.63	0.03	1.16	0.20
95th-Percentile Queue Length [ft]	6.70	7.36	15.84	0.73	28.99	4.89
Approach Delay [s/veh]	8.29	8.29	8.73		9.12	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	8.81					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	56.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.998

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	4	0	0	15	0	0	0	0	35	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	253	0	0	0	0	0	122
Total Hourly Volume [veh/h]	382	1162	0	0	1240	759	0	0	0	374	5	364
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	300	0	0	321	196	0	0	0	97	1	94
Total Analysis Volume [veh/h]	395	1202	0	0	1282	785	0	0	0	387	5	376
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	23	67	0	0	44	0	0	0	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	19	63	40	40		19	19
g / C, Green / Cycle	0.21	0.70	0.44	0.44		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.35	0.26	0.51		0.23	0.24
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1712	1530
c, Capacity [veh/h]	342	2398	2176	679		362	324
d1, Uniform Delay [s]	35.50	6.25	18.86	25.04		35.50	35.50
k, delay calibration	0.25	0.50	0.50	0.50		0.23	0.25
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	85.39	0.75	1.18	86.25		63.61	80.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.15	0.50	0.59	1.16		1.10	1.14
d, Delay for Lane Group [s/veh]	120.89	7.01	20.04	111.30		99.11	116.46
Lane Group LOS	F	A	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	15.43	4.53	6.61	29.72		14.13	14.19
50th-Percentile Queue Length [ft/ln]	385.83	113.21	165.30	742.90		353.17	354.64
95th-Percentile Queue Length [veh/ln]	23.53	8.02	10.83	42.78		21.34	21.77
95th-Percentile Queue Length [ft/ln]	588.19	200.46	270.73	1069.40		533.57	544.30

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	120.89	7.01	0.00	0.00	20.04	111.30	0.00	0.00	0.00	99.11	99.11	116.46
Movement LOS	F	A			C	F				F	F	F
d_A, Approach Delay [s/veh]	35.18				54.70		0.00		107.45			
Approach LOS	D				D		A		F			
d_I, Intersection Delay [s/veh]	56.80											
Intersection LOS	E											
Intersection V/C	0.998											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		36.46		36.46	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.417		2.405	
Crosswalk LOS	F		F		B		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1400		889		0		422	
d_b, Bicycle Delay [s]	4.06		13.90		45.01		28.02	
I_b,int, Bicycle LOS Score for Intersection	2.877		2.836		4.132		3.028	
Bicycle LOS	C		C		D		C	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	37.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.827

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	1001	385	485	1080	0	530	4	441	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	10	0	50	0	0	0	34	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	99	0	0	0	0	0	119	0	0	0
Total Hourly Volume [veh/h]	0	1015	296	485	1130	0	530	4	356	0	0	0
Peak Hour Factor	1.0000	0.9630	0.9630	0.9630	0.9630	1.0000	0.9630	0.9630	0.9630	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	263	77	126	293	0	138	1	92	0	0	0
Total Analysis Volume [veh/h]	0	1054	307	504	1173	0	550	4	370	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	20	0	26	46	0	0	24	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	16	16	22	42	20	20	
g / C, Green / Cycle	0.23	0.23	0.31	0.60	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.20	0.31	0.34	0.28	0.30	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1567	
c, Capacity [veh/h]	1124	351	508	2057	463	448	
d1, Uniform Delay [s]	26.58	26.10	24.00	8.53	24.88	25.09	
k, delay calibration	0.50	0.50	0.25	0.50	0.20	0.23	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	15.47	24.90	26.29	1.15	21.76	43.62	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.94	0.88	0.99	0.57	0.98	1.05	
d, Delay for Lane Group [s/veh]	42.05	51.00	50.29	9.68	46.64	68.71	
Lane Group LOS	D	D	D	A	D	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	7.04	7.09	11.38	4.70	9.74	12.34	
50th-Percentile Queue Length [ft/ln]	176.05	177.18	284.47	117.57	243.38	308.50	
95th-Percentile Queue Length [veh/ln]	11.39	11.45	16.91	8.26	14.85	18.64	
95th-Percentile Queue Length [ft/ln]	284.85	286.33	422.78	206.48	371.31	466.07	

**Movement, Approach, & Intersection Results**

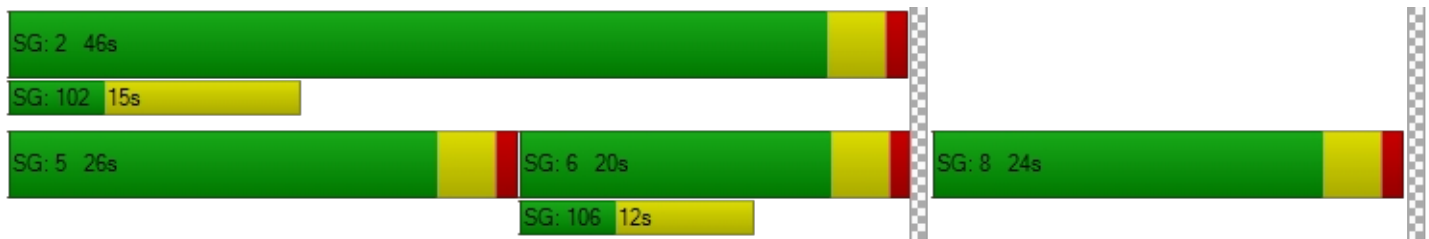
d_M, Delay for Movement [s/veh]	0.00	42.05	51.00	50.29	9.68	0.00	50.28	68.71	68.71	0.00	0.00	0.00
Movement LOS		D	D	D	A		D	E	E			
d_A, Approach Delay [s/veh]		44.07		21.89			57.88			0.00		
Approach LOS		D		C			E			A		
d_I, Intersection Delay [s/veh]	37.90											
Intersection LOS	D											
Intersection V/C	0.827											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	26.64	26.64
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.437	2.149
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	456	1198	570	0
d_b, Bicycle Delay [s]	20.89	5.64	17.91	35.06
I_b,int, Bicycle LOS Score for Intersection	2.363	2.943	3.281	4.132
Bicycle LOS	B	C	C	D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1205	4	80	1236	190	92	0	32	0	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	84	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	48	0	0	8	0	0	25
Total Hourly Volume [veh/h]	5	1228	3	80	1320	142	92	0	24	0	0	74
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	326	1	21	350	38	24	0	6	0	0	20
Total Analysis Volume [veh/h]	5	1304	3	85	1401	151	98	0	25	0	0	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	12	19	0	0	42	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	55	47	47	55	51	51	7	7	7
g / C, Green / Cycle	0.79	0.67	0.67	0.79	0.72	0.72	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.36	0.36	0.15	0.41	0.10	0.07	0.02	0.05
s, saturation flow rate [veh/h]	448	1800	1799	561	3427	1530	1341	1530	1530
c, Capacity [veh/h]	420	1208	1207	504	2474	1105	137	151	202
d1, Uniform Delay [s]	3.16	5.96	5.96	3.46	4.59	3.01	30.86	28.96	30.04
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	1.74	1.75	0.72	0.95	0.26	6.75	0.51	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	0.54	0.54	0.17	0.57	0.14	0.71	0.17	0.39
d, Delay for Lane Group [s/veh]	3.17	7.71	7.71	4.18	5.53	3.27	37.61	29.47	31.27
Lane Group LOS	A	A	A	A	A	A	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.01	4.18	4.18	0.21	3.29	0.50	1.81	0.39	1.29
50th-Percentile Queue Length [ft/ln]	0.19	104.44	104.38	5.33	82.32	12.47	45.35	9.85	32.27
95th-Percentile Queue Length [veh/ln]	0.01	7.52	7.52	0.38	5.93	0.90	3.27	0.71	2.32
95th-Percentile Queue Length [ft/ln]	0.34	187.99	187.89	9.60	148.18	22.45	81.64	17.74	58.08



**Movement, Approach, & Intersection Results**

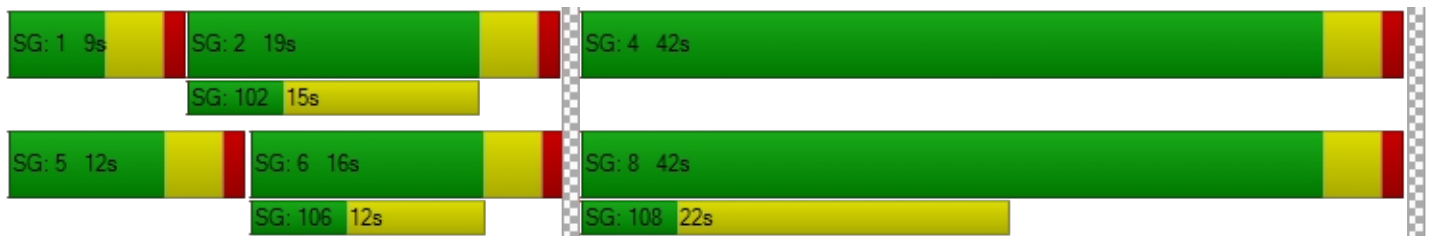
d_M, Delay for Movement [s/veh]	3.17	7.71	7.71	4.18	5.53	3.27	37.61	29.47	29.47	31.27	31.27	31.27
Movement LOS	A	A	A	A	A	A	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.69			5.25			35.96			31.27		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	8.12											
Intersection LOS	A											
Intersection V/C	0.483											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.61	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	2.826	0.000	2.055	1.918
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	343	428	1085	1085
d_b, Bicycle Delay [s]	24.06	21.64	7.34	7.34
I_b,int, Bicycle LOS Score for Intersection	2.643	2.950	1.776	1.731
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.618

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	84	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	32	0	0	14	0	0	47
Total Hourly Volume [veh/h]	99	876	9	200	1046	94	169	75	40	10	117	141
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	234	2	53	279	25	45	20	11	3	31	38
Total Analysis Volume [veh/h]	106	935	10	213	1116	100	180	80	43	11	125	150
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	18	36	0	16	26	0	21	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	41	41	14	48	48	12	22	22	1	12	12
g / C, Green / Cycle	0.08	0.43	0.43	0.15	0.50	0.50	0.13	0.24	0.24	0.01	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.07	0.26	0.26	0.13	0.34	0.34	0.11	0.02	0.03	0.01	0.07	0.10
s, saturation flow rate [veh/h]	1619	1800	1793	1619	1800	1749	1619	3427	1530	1619	1800	1530
c, Capacity [veh/h]	132	781	778	239	900	875	205	808	361	24	222	189
d1, Uniform Delay [s]	42.96	20.69	20.69	39.79	18.06	18.11	40.81	28.46	28.60	46.52	39.29	40.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.77	3.48	3.49	10.82	4.18	4.39	11.19	0.05	0.15	13.68	2.23	7.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.61	0.61	0.89	0.68	0.69	0.88	0.10	0.12	0.47	0.56	0.79
d, Delay for Lane Group [s/veh]	53.73	24.17	24.19	50.61	22.24	22.50	52.00	28.51	28.74	60.20	41.52	47.90
Lane Group LOS	D	C	C	D	C	C	D	C	C	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.82	8.49	8.46	5.53	10.65	10.49	4.73	0.71	0.78	0.35	2.86	3.76
50th-Percentile Queue Length [ft/ln]	70.52	212.34	211.62	138.33	266.35	262.22	118.14	17.87	19.51	8.65	71.54	93.98
95th-Percentile Queue Length [veh/ln]	5.08	13.27	13.24	9.39	16.01	15.80	8.29	1.29	1.40	0.62	5.15	6.77
95th-Percentile Queue Length [ft/ln]	126.94	331.83	330.91	234.78	400.17	395.00	207.27	32.16	35.11	15.57	128.77	169.16

**Movement, Approach, & Intersection Results**

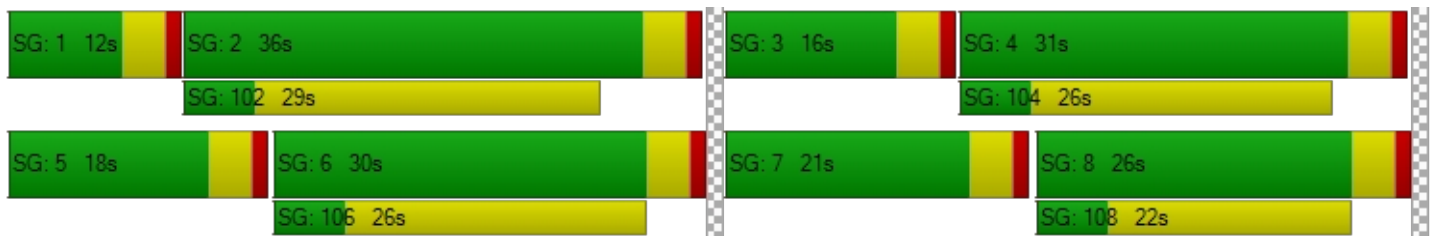
d_M, Delay for Movement [s/veh]	53.73	24.18	24.19	50.61	22.36	22.50	52.00	28.51	28.74	60.20	41.52	47.90
Movement LOS	D	C	C	D	C	C	D	C	C	E	D	D
d_A, Approach Delay [s/veh]	27.16			26.58			42.50			45.59		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.12											
Intersection LOS	C											
Intersection V/C	0.618											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.97	38.97	38.97	38.97
I_p,int, Pedestrian LOS Score for Intersection	2.745	2.953	2.713	2.628
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	673	463	568
d_b, Bicycle Delay [s]	25.09	20.92	28.09	24.37
I_b,int, Bicycle LOS Score for Intersection	2.429	2.765	1.821	1.834
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.429

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	18	62	871	53	63	43	47	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	0	64	20	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	18	0	0	12	0	0	10
Total Hourly Volume [veh/h]	69	798	13	62	935	55	69	43	35	10	65	28
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	208	3	16	244	14	18	11	9	3	17	7
Total Analysis Volume [veh/h]	72	832	14	65	975	57	72	45	36	10	68	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	25	0	9	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	38	38	3	37	37	7	7
g / C, Green / Cycle	0.06	0.63	0.63	0.06	0.62	0.62	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.04	0.29	0.29	0.10	0.06
s, saturation flow rate [veh/h]	1619	1800	1790	1619	1800	1765	1603	1752
c, Capacity [veh/h]	98	1126	1119	93	1120	1099	277	272
d1, Uniform Delay [s]	27.80	5.52	5.52	27.85	6.04	6.04	25.79	24.96
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.26	0.96	0.97	9.21	1.39	1.42	1.72	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.38	0.38	0.70	0.47	0.47	0.55	0.39
d, Delay for Lane Group [s/veh]	38.06	6.49	6.49	37.06	7.43	7.46	27.51	25.89
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.24	2.17	2.16	1.11	2.93	2.89	2.13	1.37
50th-Percentile Queue Length [ft/ln]	31.10	54.16	53.89	27.71	73.33	72.16	53.19	34.21
95th-Percentile Queue Length [veh/ln]	2.24	3.90	3.88	2.00	5.28	5.20	3.83	2.46
95th-Percentile Queue Length [ft/ln]	55.98	97.48	97.00	49.88	132.00	129.89	95.74	61.57

**Movement, Approach, & Intersection Results**

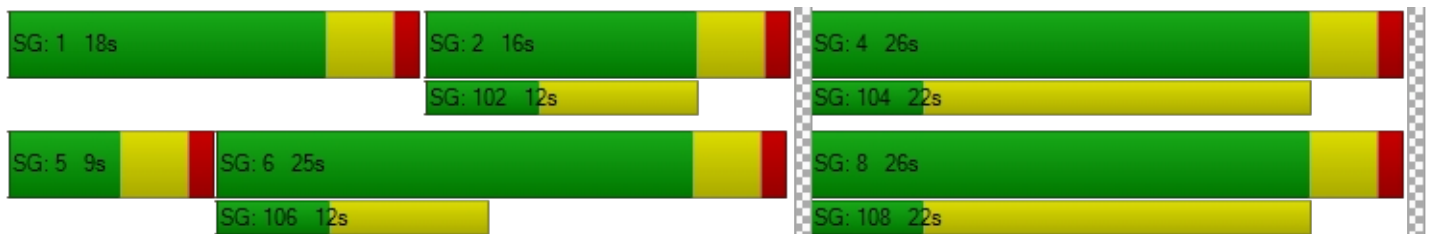
d_M, Delay for Movement [s/veh]	38.06	6.49	6.49	37.06	7.44	7.46	27.51	27.51	27.51	25.89	25.89	25.89
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.97			9.20			27.51			25.89		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.12											
Intersection LOS	B											
Intersection V/C	0.429											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.683			2.810			1.898			1.870		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	699			399			732			732		
d_b, Bicycle Delay [s]	12.71			19.24			12.07			12.07		
I_b,int, Bicycle LOS Score for Intersection	2.321			2.479			1.832			1.753		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.644

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	46	0	0	0	0	64	18	2	12	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	22	0	0	9	0	0	12
Total Hourly Volume [veh/h]	61	745	24	92	811	65	70	36	25	30	44	37
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	203	7	25	221	18	19	10	7	8	12	10
Total Analysis Volume [veh/h]	66	811	26	100	882	71	76	39	27	33	48	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	19	0	20	21	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	26	26	5	28	28	22	22	22	22
g / C, Green / Cycle	0.05	0.41	0.41	0.08	0.43	0.43	0.33	0.33	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.06	0.27	0.27	1.34	0.02	0.33	0.03
s, saturation flow rate [veh/h]	1619	1800	1780	1619	1800	1753	86	1530	243	1530
c, Capacity [veh/h]	87	733	725	126	777	757	120	505	158	505
d1, Uniform Delay [s]	30.35	14.89	14.89	29.45	14.34	14.34	27.33	14.85	17.92	14.98
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.25	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.77	3.25	3.28	10.58	3.71	3.81	70.69	0.04	5.73	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.76	0.57	0.57	0.79	0.62	0.62	0.96	0.05	0.51	0.08
d, Delay for Lane Group [s/veh]	43.12	18.14	18.18	40.03	18.05	18.15	98.01	14.89	23.66	15.05
Lane Group LOS	D	B	B	D	B	B	F	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.28	4.97	4.92	1.84	5.68	5.56	4.11	0.26	1.03	0.39
50th-Percentile Queue Length [ft/ln]	32.12	124.20	123.03	45.94	142.10	138.96	102.72	6.46	25.77	9.66
95th-Percentile Queue Length [veh/ln]	2.31	8.62	8.56	3.31	9.59	9.42	7.40	0.47	1.86	0.70
95th-Percentile Queue Length [ft/ln]	57.82	215.59	213.99	82.70	239.85	235.62	184.90	11.64	46.39	17.40

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	43.12	18.16	18.18	40.03	18.10	18.15	98.01	98.01	14.89	23.66	23.66	15.05
Movement LOS	D	B	B	D	B	B	F	F	B	C	C	B
d_A, Approach Delay [s/veh]	19.98			20.18			82.21			20.81		
Approach LOS	B			C			F			C		
d_I, Intersection Delay [s/veh]	24.10											
Intersection LOS	C											
Intersection V/C	1.644											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	24.12	24.12	24.12
I_p,int, Pedestrian LOS Score for Intersection	2.706	2.817	2.054	2.042
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	462	523	677	677
d_b, Bicycle Delay [s]	19.23	17.72	14.22	14.22
I_b,int, Bicycle LOS Score for Intersection	2.311	2.446	1.809	1.779
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.361

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	23	755	1	19	805	19	79	29	25	21	16	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	46	0	0	12	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	5	0	0	6	0	0	5
Total Hourly Volume [veh/h]	23	801	1	19	817	14	79	29	19	21	16	13
Peak Hour Factor	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	223	0	5	228	4	22	8	5	6	4	4
Total Analysis Volume [veh/h]	26	894	1	21	912	16	88	32	21	23	18	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	40	40	2	40	40	7	7
g / C, Green / Cycle	0.03	0.67	0.67	0.03	0.66	0.66	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.25	0.25	0.01	0.26	0.26	0.09	0.03
s, saturation flow rate [veh/h]	1619	1800	1799	1619	1800	1789	1628	1717
c, Capacity [veh/h]	49	1197	1196	42	1188	1181	276	273
d1, Uniform Delay [s]	28.70	4.49	4.49	28.89	4.68	4.68	25.92	24.61
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.48	0.90	0.90	9.12	0.97	0.98	1.46	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.37	0.37	0.50	0.39	0.39	0.51	0.21
d, Delay for Lane Group [s/veh]	37.18	5.39	5.39	38.01	5.65	5.66	27.39	24.98
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	1.89	1.89	0.39	2.05	2.04	1.95	0.72
50th-Percentile Queue Length [ft/ln]	11.68	47.37	47.35	9.75	51.32	51.05	48.80	18.04
95th-Percentile Queue Length [veh/ln]	0.84	3.41	3.41	0.70	3.69	3.68	3.51	1.30
95th-Percentile Queue Length [ft/ln]	21.03	85.26	85.23	17.55	92.37	91.90	87.84	32.47

**Movement, Approach, & Intersection Results**

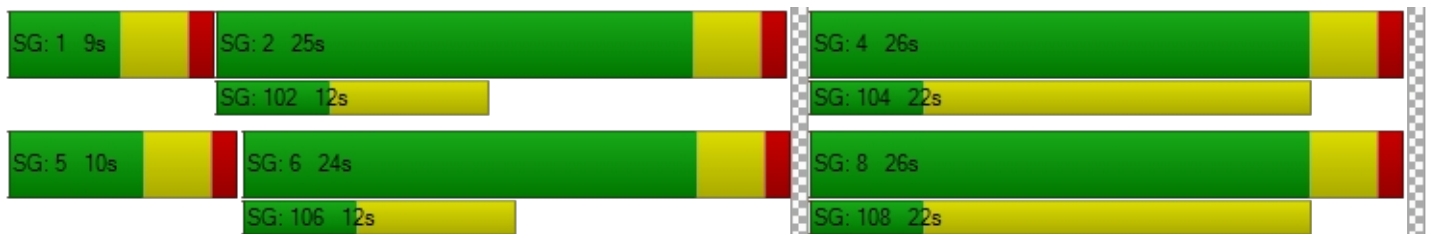
d_M, Delay for Movement [s/veh]	37.18	5.39	5.39	38.01	5.66	5.66	27.39	27.39	27.39	24.98	24.98	24.98
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.29			6.37			27.39			24.98		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.27											
Intersection LOS	A											
Intersection V/C	0.361											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.680			2.794			1.807			1.759		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.319			2.347			1.802			1.660		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.343

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	38	677	7	14	808	23	34	12	75	43	11	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	0	10	2	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	6	0	0	19	0	0	3
Total Hourly Volume [veh/h]	38	716	5	14	818	19	41	12	56	43	11	9
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	191	1	4	218	5	11	3	15	11	3	2
Total Analysis Volume [veh/h]	40	763	5	15	871	20	44	13	60	46	12	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	42	42	1	40	40	5	5
g / C, Green / Cycle	0.04	0.69	0.69	0.02	0.67	0.67	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.02	0.21	0.21	0.01	0.25	0.25	0.07	0.04
s, saturation flow rate [veh/h]	1619	1800	1796	1619	1800	1786	1688	1586
c, Capacity [veh/h]	68	1244	1241	32	1204	1194	234	243
d1, Uniform Delay [s]	28.29	3.65	3.65	29.15	4.38	4.38	26.69	25.96
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.03	0.65	0.65	10.63	0.88	0.89	1.65	0.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.59	0.31	0.31	0.47	0.37	0.37	0.50	0.28
d, Delay for Lane Group [s/veh]	36.32	4.29	4.30	39.78	5.27	5.27	28.34	26.58
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.69	1.32	1.32	0.30	1.85	1.84	1.65	0.92
50th-Percentile Queue Length [ft/ln]	17.20	32.99	32.93	7.44	46.24	45.93	41.30	22.90
95th-Percentile Queue Length [veh/ln]	1.24	2.38	2.37	0.54	3.33	3.31	2.97	1.65
95th-Percentile Queue Length [ft/ln]	30.97	59.39	59.28	13.38	83.23	82.68	74.34	41.22

**Movement, Approach, & Intersection Results**

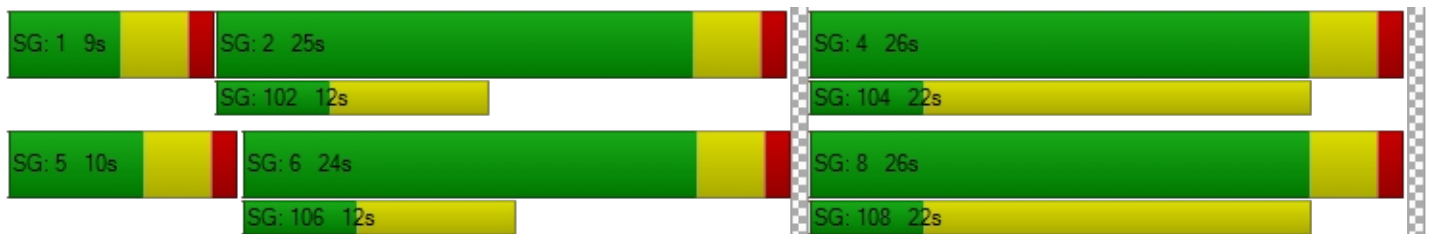
d_M, Delay for Movement [s/veh]	36.32	4.29	4.30	39.78	5.27	5.27	28.34	28.34	28.34	26.58	26.58	26.58
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.88			5.84			28.34			26.58		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	7.99											
Intersection LOS	A											
Intersection V/C	0.343											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.701			2.689			1.827			1.752		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.228			2.312			1.784			1.677		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	630	97	129	806	5	8	0	9	141	1	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	0	10	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	24	0	0	1	0	0	2	0	0	11
Total Hourly Volume [veh/h]	4	669	73	129	816	4	8	0	7	141	1	34
Peak Hour Factor	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	189	21	37	231	1	2	0	2	40	0	10
Total Analysis Volume [veh/h]	5	758	83	146	924	5	9	0	8	160	1	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	20	0	14	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	31	31	7	37	37	11	11	11
g / C, Green / Cycle	0.01	0.51	0.51	0.11	0.62	0.62	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.00	0.24	0.24	0.09	0.26	0.26	0.06	0.15	0.03
s, saturation flow rate [veh/h]	1619	1800	1738	1619	1800	1797	278	1076	1530
c, Capacity [veh/h]	11	920	888	182	1109	1107	141	310	271
d1, Uniform Delay [s]	29.69	9.41	9.41	26.00	5.96	5.96	21.20	23.91	20.86
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.36	1.69	1.75	8.06	1.17	1.17	0.38	1.35	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.46	0.47	0.80	0.42	0.42	0.12	0.52	0.14
d, Delay for Lane Group [s/veh]	55.05	11.10	11.16	34.07	7.12	7.13	21.58	25.26	21.11
Lane Group LOS	E	B	B	C	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.15	3.40	3.30	2.32	2.57	2.57	0.20	2.16	0.45
50th-Percentile Queue Length [ft/ln]	3.69	84.93	82.46	57.98	64.35	64.25	5.01	54.10	11.27
95th-Percentile Queue Length [veh/ln]	0.27	6.12	5.94	4.17	4.63	4.63	0.36	3.90	0.81
95th-Percentile Queue Length [ft/ln]	6.64	152.88	148.42	104.37	115.83	115.65	9.02	97.39	20.29

**Movement, Approach, & Intersection Results**

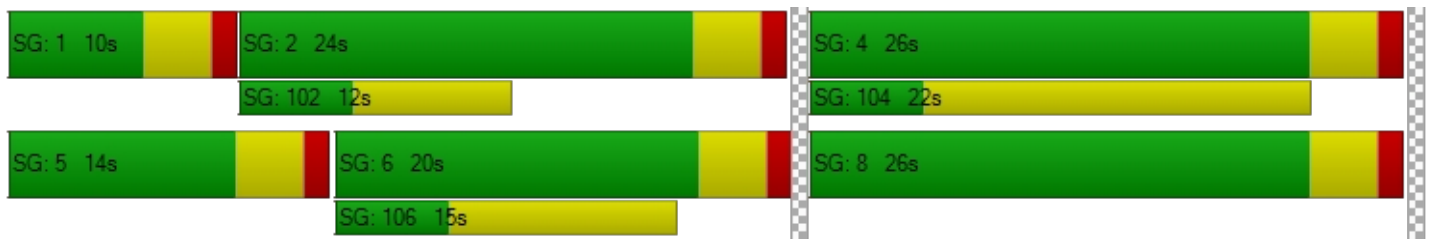
d_M, Delay for Movement [s/veh]	55.05	11.13	11.16	34.07	7.12	7.13	21.58	21.58	21.58	25.26	25.26	21.11
Movement LOS	E	B	B	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.39			10.78			21.58			24.45		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	12.39											
Intersection LOS	B											
Intersection V/C	0.478											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.664			1.713			2.087		
Crosswalk LOS	F			B			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			667			733			733		
d_b, Bicycle Delay [s]	16.14			13.34			12.04			12.04		
I_b,int, Bicycle LOS Score for Intersection	2.277			2.447			1.591			1.908		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	36.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		



**Volumes**

Name												
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	8	3	0	0	0	0	0	0	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	88	0	0	7	0	0	7	0	0	127
Total Hourly Volume [veh/h]	41	278	265	474	383	19	28	65	19	211	99	382
Peak Hour Factor	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	79	76	135	109	5	8	19	5	60	28	109
Total Analysis Volume [veh/h]	47	317	303	541	437	22	32	74	22	241	113	436
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	37	21	0	30	14	0	0	9	0	0	20	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	18	18	25	40	40	5	5	16
g / C, Green / Cycle	0.04	0.22	0.22	0.32	0.50	0.50	0.06	0.06	0.20
(v / s)_i Volume / Saturation Flow Rate	0.03	0.09	0.19	0.30	0.12	0.01	0.02	0.05	0.19
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1826	1837
c, Capacity [veh/h]	75	801	358	576	1804	805	109	110	368
d1, Uniform Delay [s]	37.79	26.62	29.89	26.53	11.45	10.21	36.01	37.33	31.75
k, delay calibration	0.11	0.50	0.50	0.30	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.37	1.46	21.35	17.63	0.32	0.06	1.47	18.30	14.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.63	0.40	0.85	0.94	0.24	0.03	0.29	0.87	0.96
d, Delay for Lane Group [s/veh]	46.16	28.08	51.24	44.16	11.77	10.27	37.48	55.64	46.39
Lane Group LOS	D	C	D	D	B	B	D	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.06	2.67	7.51	12.30	2.14	0.20	0.63	2.38	8.03
50th-Percentile Queue Length [ft/ln]	26.59	66.81	187.69	307.43	53.44	4.97	15.77	59.56	200.77
95th-Percentile Queue Length [veh/ln]	1.91	4.81	12.00	18.05	3.85	0.36	1.14	4.29	12.68
95th-Percentile Queue Length [ft/ln]	47.87	120.26	300.03	451.21	96.19	8.94	28.38	107.22	316.95

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	46.16	28.08	51.24	44.16	11.77	10.27	37.48	55.64	55.64	46.39	46.39	0.00
Movement LOS	D	C	D	D	B	B	D	E	E	D	D	
d_A, Approach Delay [s/veh]	39.87			29.26			51.10			46.39		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	36.68											
Intersection LOS	D											
Intersection V/C	0.732											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	425			250			125			400		
d_b, Bicycle Delay [s]	24.83			30.65			35.18			25.63		
I_b,int, Bicycle LOS Score for Intersection	2.182			2.390			1.782			2.144		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	24.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	5	163	17	227	359	505	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	8	0	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	57	0	0	5	0	0	55
Total Hourly Volume [veh/h]	9	5	4	163	17	170	359	513	16	5	579	166
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	45	5	47	99	142	4	1	160	46
Total Analysis Volume [veh/h]	10	6	4	180	19	188	397	567	18	6	640	184
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	26	35	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	18	33	33	1	16	16
g / C, Green / Cycle	0.39	0.39	0.39	0.25	0.45	0.45	0.01	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.12	0.22	0.16	0.01	0.00	0.18	0.11
s, saturation flow rate [veh/h]	1038	1280	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	472	584	622	444	1612	720	17	757	338
d1, Uniform Delay [s]	15.05	17.31	16.06	27.38	13.69	11.67	36.97	28.52	26.49
k, delay calibration	0.50	0.50	0.50	0.12	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.17	1.58	1.25	7.08	0.13	0.01	11.89	2.69	1.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.04	0.34	0.30	0.89	0.35	0.03	0.35	0.84	0.54
d, Delay for Lane Group [s/veh]	15.22	18.90	17.31	34.45	13.82	11.69	48.86	31.21	27.85
Lane Group LOS	B	B	B	C	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.22	2.67	2.33	7.41	2.94	0.16	0.16	5.57	2.95
50th-Percentile Queue Length [ft/ln]	5.57	66.82	58.20	185.26	73.56	4.01	4.08	139.22	73.78
95th-Percentile Queue Length [veh/ln]	0.40	4.81	4.19	11.87	5.30	0.29	0.29	9.44	5.31
95th-Percentile Queue Length [ft/ln]	10.03	120.27	104.76	296.87	132.40	7.22	7.35	235.98	132.81



**Movement, Approach, & Intersection Results**

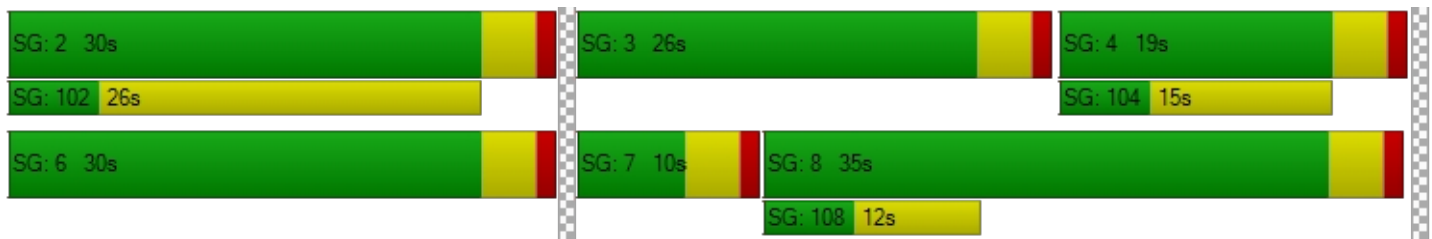
d_M, Delay for Movement [s/veh]	15.22	15.22	15.22	18.90	18.90	17.31	34.45	13.82	11.69	48.86	31.21	27.85
Movement LOS	B	B	B	B	B	B	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	15.22			18.13			22.12			30.59		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	24.53											
Intersection LOS	C											
Intersection V/C	0.552											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.07	29.07	29.07	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.742	2.367	2.772	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	826	400
d_b, Bicycle Delay [s]	16.03	16.03	12.93	24.03
I_b,int, Bicycle LOS Score for Intersection	1.594	2.292	2.374	2.290
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	17.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	28	0	0	8	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	21	0	0	5
Total Hourly Volume [veh/h]	57	801	152	30	638	0	4	30	61	101	17	16
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	216	41	8	172	0	1	8	16	27	5	4
Total Analysis Volume [veh/h]	61	864	164	32	688	0	4	32	66	109	18	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	22	0	9	19	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	50	50	3	49	49	5	5	7	7
g / C, Green / Cycle	0.05	0.62	0.62	0.03	0.61	0.61	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.45	0.10	0.02	0.36	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	1810	1750
c, Capacity [veh/h]	87	1178	1001	61	1150	978	118	101	154	149
d1, Uniform Delay [s]	37.62	10.63	6.45	38.14	9.79	0.00	35.95	36.77	35.74	34.27
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.88	4.07	0.35	6.97	2.30	0.00	1.45	7.02	5.92	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.73	0.16	0.53	0.60	0.00	0.31	0.66	0.71	0.24
d, Delay for Lane Group [s/veh]	47.51	14.70	6.80	45.12	12.09	0.00	37.39	43.79	41.66	35.08
Lane Group LOS	D	B	A	D	B	A	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	10.09	1.11	0.72	7.05	0.00	0.71	1.43	2.28	0.66
50th-Percentile Queue Length [ft/ln]	34.86	252.35	27.68	18.11	176.19	0.00	17.70	35.87	57.05	16.45
95th-Percentile Queue Length [veh/ln]	2.51	15.30	1.99	1.30	11.40	0.00	1.27	2.58	4.11	1.18
95th-Percentile Queue Length [ft/ln]	62.75	382.61	49.83	32.60	285.04	0.00	31.85	64.57	102.68	29.61

**Movement, Approach, & Intersection Results**

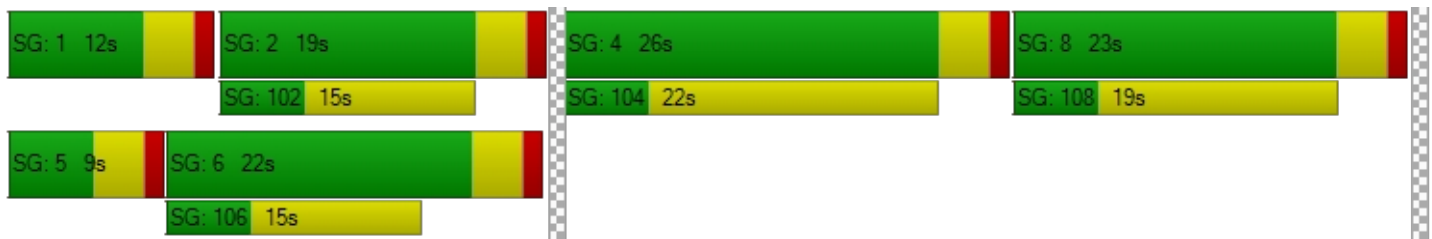
d_M, Delay for Movement [s/veh]	47.51	14.70	6.80	45.12	12.09	0.00	37.39	37.39	43.79	41.66	35.08	35.08
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.35			13.56			41.53			40.06		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.75											
Intersection LOS	B											
Intersection V/C	0.574											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	31.56			31.56			31.56			31.56		
I_p,int, Pedestrian LOS Score for Intersection	2.693			2.610			2.031			2.082		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	449			374			474			549		
d_b, Bicycle Delay [s]	24.08			26.46			23.31			21.08		
I_b,int, Bicycle LOS Score for Intersection	3.441			2.748			1.763			1.805		
Bicycle LOS	C			B			A			A		

**Sequence**





Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1004	197	41	760	0	0	0	9	197	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	28	0	0	8	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	49	0	0	0	0	0	2	0	0	11
Total Hourly Volume [veh/h]	30	1032	148	41	768	0	0	0	7	197	5	32
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	285	41	11	212	0	0	0	2	54	1	9
Total Analysis Volume [veh/h]	33	1139	163	45	848	0	0	0	8	217	6	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	25	25	9	20	0	0	10	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	44	44	3	44	44	1	1	7	7	7
g / C, Green / Cycle	0.03	0.62	0.62	0.04	0.63	0.63	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.31	0.10	0.02	0.22	0.22	0.00	0.00	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	65	2243	1001	79	1193	1193	23	20	175	175	156
d1, Uniform Delay [s]	33.26	7.40	5.64	32.95	6.26	6.26	0.00	34.46	30.56	30.56	29.31
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.05	0.82	0.35	6.32	0.83	0.83	0.00	13.19	3.84	3.82	0.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.51	0.16	0.57	0.36	0.36	0.00	0.41	0.64	0.64	0.22
d, Delay for Lane Group [s/veh]	39.31	8.22	5.99	39.27	7.09	7.09	0.00	47.65	34.40	34.38	30.04
Lane Group LOS	D	A	A	D	A	A	A	D	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.64	3.97	0.91	0.87	2.63	2.63	0.00	0.20	1.93	1.94	0.56
50th-Percentile Queue Length [ft/ln]	16.10	99.36	22.70	21.65	65.82	65.82	0.00	5.08	48.37	48.45	13.96
95th-Percentile Queue Length [veh/ln]	1.16	7.15	1.63	1.56	4.74	4.74	0.00	0.37	3.48	3.49	1.01
95th-Percentile Queue Length [ft/ln]	28.98	178.85	40.86	38.97	118.47	118.47	0.00	9.14	87.07	87.22	25.13

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	39.31	8.22	5.99	39.27	7.09	7.09	0.00	0.00	47.65	34.39	34.38	30.04
Movement LOS	D	A	A	D	A	A	A	A	D	C	C	C
d_A, Approach Delay [s/veh]	8.72			8.71			47.65			33.80		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	11.44											
Intersection LOS	B											
Intersection V/C	0.406											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.694			0.000			2.264		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	599			456			171			627		
d_b, Bicycle Delay [s]	17.21			20.89			29.32			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.701			2.296			1.576			2.003		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.415

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	153	260	0	0	831	137	0	0	0	101	0	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	8	0	0	0	0	0	0	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	34	0	0	0	0	0	249
Total Hourly Volume [veh/h]	153	260	0	0	839	103	0	0	0	101	0	748
Peak Hour Factor	0.8970	0.8970	1.0000	1.0000	0.8970	0.8970	1.0000	1.0000	1.0000	0.8970	1.0000	0.8970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	72	0	0	234	29	0	0	0	28	0	208
Total Analysis Volume [veh/h]	171	290	0	0	935	115	0	0	0	113	0	834
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	21	0	0	9	0	0	0	0	39	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.60		0.08
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.26		0.06
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	218	2827	2151		155
d1, Uniform Delay [s]	25.70	1.56	6.66		26.84
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	6.12	0.07	0.64		6.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.78	0.10	0.43		0.73
d, Delay for Lane Group [s/veh]	31.83	1.63	7.31		33.32
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.60	0.15	2.62		1.77
50th-Percentile Queue Length [ft/ln]	65.03	3.66	65.49		44.31
95th-Percentile Queue Length [veh/ln]	4.68	0.26	4.72		3.19
95th-Percentile Queue Length [ft/ln]	117.05	6.58	117.89		79.76

**Movement, Approach, & Intersection Results**

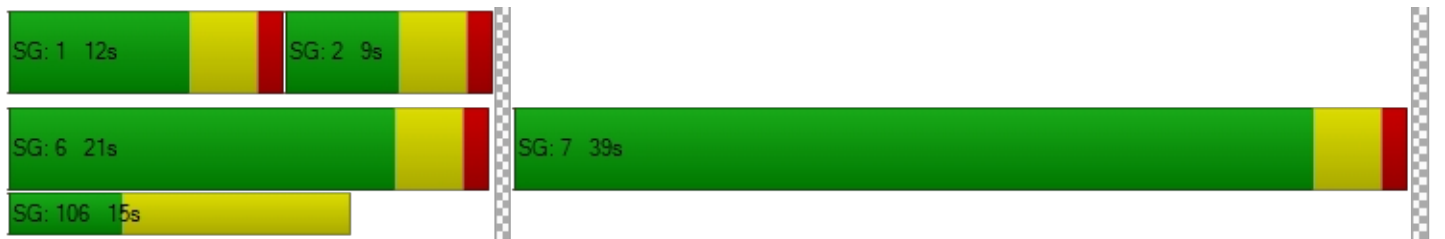
d_M, Delay for Movement [s/veh]	31.83	1.63	0.00	0.00	7.31	0.00	0.00	0.00	0.00	0.00	33.32	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	12.83			7.31			0.00			33.32			
Approach LOS	B			A			A			C			
d_I, Intersection Delay [s/veh]	10.94												
Intersection LOS	B												
Intersection V/C	0.415												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	21.72
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	1.958
Crosswalk LOS	F	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	566	166	0	1165
d_b, Bicycle Delay [s]	15.45	25.25	30.04	5.24
I_b,int, Bicycle LOS Score for Intersection	1.940	2.331	4.132	1.560
Bicycle LOS	A	B	D	A

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-








**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.590

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	127	664	265	0	112	0	337	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	8	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	32	0	0	0	0	0	84	0	0	0
Total Hourly Volume [veh/h]	0	301	95	672	265	0	112	0	253	0	0	0
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	82	26	183	72	0	30	0	69	0	0	0
Total Analysis Volume [veh/h]	0	327	103	730	288	0	122	0	275	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	36	48	0	12	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	14	26	44	8	8	
g / C, Green / Cycle	0.23	0.44	0.74	0.13	0.13	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.40	0.08	0.07	0.10	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	843	794	2671	233	368	
d1, Uniform Delay [s]	19.46	15.88	2.24	24.49	25.27	
k, delay calibration	0.50	0.28	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.35	10.93	0.08	1.82	3.04	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.39	0.92	0.11	0.52	0.75	
d, Delay for Lane Group [s/veh]	20.81	26.80	2.32	26.31	28.31	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	1.94	10.36	0.26	1.64	1.93	
50th-Percentile Queue Length [ft/ln]	48.42	258.90	6.52	41.11	48.28	
95th-Percentile Queue Length [veh/ln]	3.49	15.63	0.47	2.96	3.48	
95th-Percentile Queue Length [ft/ln]	87.15	390.84	11.73	74.00	86.90	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	20.81	0.00	26.80	2.32	0.00	26.31	0.00	28.31	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	20.81			19.88			27.69			0.00		
Approach LOS	C			B			C			A		
d_I, Intersection Delay [s/veh]	21.83											
Intersection LOS	C											
Intersection V/C	0.590											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.116		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			1465			266			0		
d_b, Bicycle Delay [s]	22.57			2.15			22.57			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.829			2.399			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	11	0	0	11	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	7	30	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	0	7	41	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	2	11	0	1
Total Analysis Volume [veh/h]	20	0	7	43	0	2
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.27	0.00	8.91	8.41
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.33	0.33	0.14	0.14
d_A, Approach Delay [s/veh]	0.00		1.02		8.41	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.94					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.041

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	7	24	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	17	0	7	35	0	0	0	0	0	0	2
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	2	9	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	18	0	7	37	0	0	0	0	0	0	2
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.82	9.11	8.38	8.81	9.22	8.52	7.22	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.15	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.54	1.54	1.54	3.81	3.81	3.81	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.11			9.16			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.86											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	3	4	20	0	0	0	0	11	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	16	3	4	31	0	0	0	0	11	0	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	1	1	8	0	0	0	0	3	0	0
Total Analysis Volume [veh/h]	0	17	3	4	33	0	0	0	0	12	0	1
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	7.24	0.00	0.00	8.84	9.33	8.44	8.88	9.37	8.43
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.19	0.19	0.19	0.00	0.00	0.00	1.04	1.04	1.04
d_A, Approach Delay [s/veh]	0.00			0.78			8.87			8.85		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.06											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	254	209	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	8	30	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	262	239	0	0	2
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	69	63	0	0	1
Total Analysis Volume [veh/h]	7	276	252	0	0	2
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.73	0.00	0.00	0.00	0.00	9.56
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.40	0.40	0.00	0.00	0.00	0.19
d_A, Approach Delay [s/veh]	0.19		0.00		9.56	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	254	0	0	209	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	14	7	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	269	0	14	216	0	4
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	0	4	57	0	1
Total Analysis Volume [veh/h]	283	0	14	227	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.82	0.00	0.00	9.76
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.82	0.82	0.00	0.40
d_A, Approach Delay [s/veh]	0.00		0.45		9.76	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	3.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.177

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	254	0	0	209	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	22	23	0	6	3	1	0	4	6	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	1	0	0	1	0	0	0
Total Hourly Volume [veh/h]	15	276	17	0	215	2	1	0	3	6	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	73	4	0	57	1	0	0	1	2	0	0
Total Analysis Volume [veh/h]	16	291	18	0	226	2	1	0	3	6	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	28	0	9	26	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	47	0	46	1	1
g / C, Green / Cycle	0.02	0.79	0.00	0.77	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.01	0.17	0.00	0.13	0.00	0.00
s, saturation flow rate [veh/h]	1714	1782	1714	1797	1722	1649
c, Capacity [veh/h]	37	1405	3	1382	92	136
d1, Uniform Delay [s]	29.07	1.63	0.00	1.84	29.55	29.59
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.71	0.36	0.00	0.26	0.19	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.22	0.00	0.16	0.04	0.04
d, Delay for Lane Group [s/veh]	36.78	1.99	0.00	2.10	29.74	29.72
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.29	0.14	0.00	0.34	0.06	0.09
50th-Percentile Queue Length [ft/ln]	7.15	3.52	0.00	8.62	1.49	2.18
95th-Percentile Queue Length [veh/ln]	0.51	0.25	0.00	0.62	0.11	0.16
95th-Percentile Queue Length [ft/ln]	12.87	6.34	0.00	15.52	2.68	3.92

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	36.78	1.99	1.99	0.00	2.10	2.10	29.74	29.74	29.74	29.72	29.72	29.72
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.70			2.10			29.74			29.72		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	3.51											
Intersection LOS	A											
Intersection V/C	0.177											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.214			2.093			1.709			1.710		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			732			632			632		
d_b, Bicycle Delay [s]	10.83			12.07			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.106			1.937			1.568			1.570		
Bicycle LOS	B			A			A			A		

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	62	80	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	7	15	53	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	7	77	133	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	2	20	35	2
Total Analysis Volume [veh/h]	2	2	7	81	140	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.82	8.98	7.50	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.37	0.37	0.36	0.36	0.00	0.00
d_A, Approach Delay [s/veh]	9.40		0.60		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.38					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	27	26	26	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	1	7	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	31	27	33	2	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	7	9	1	0
Total Analysis Volume [veh/h]	0	33	28	35	2	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	8.88	8.50
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.16	0.16
d_A, Approach Delay [s/veh]	0.00		0.00		8.88	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	7	0	0	30	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	7	0	4	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	7	0	34	2	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	2	0	9	1	0
Total Analysis Volume [veh/h]	23	7	0	36	2	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.26	0.00	8.80	8.42
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.16	0.16
d_A, Approach Delay [s/veh]	0.00		0.00		8.80	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	7	0	0	30	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	3	0	6	0	0	0	0	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	29	3	0	36	0	0	0	0	1	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	1	0	9	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	31	3	0	38	0	0	0	0	1	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.26	0.00	0.00	8.89	9.38	8.46	8.89	9.37	8.44
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.08
d_A, Approach Delay [s/veh]	0.00			0.00			8.91			8.89		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.12											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	79	82	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	23	85	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	0	102	167	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	27	44	2
Total Analysis Volume [veh/h]	2	0	0	107	176	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.88	8.79	7.57	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.20	0.20	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.88		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	56	45	0	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	15	12	0	0	1
Total Analysis Volume [veh/h]	14	59	47	0	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.31	0.00	0.00	0.00	9.22	8.52
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.67	0.67	0.00	0.00	0.29	0.29
d_A, Approach Delay [s/veh]	1.40		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.10					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	13	4	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	69	49	0	0	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	18	13	0	0	1
Total Analysis Volume [veh/h]	12	73	52	0	0	3
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	9.29	8.53
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.58	0.58	0.00	0.00	0.22	0.22
d_A, Approach Delay [s/veh]	1.03		0.00		8.53	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.81					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 7 Existing AM + P

Report File: C:\...\PLD Existing AM + P.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	623	804	308	563	670	1094	1048	553	375	691	6729

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	146	1247	88	550	922	156	190	194	58	49	243	350	4193

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1420	23	56	935	10	63	2507

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	134	1235	35	103	761	65	99	59	41	48	75	102	2757

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	11	3	7	11	0	10	9	207	27	21	210	10	526

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	63	167	32	6	81	5	5	98	90	68	145	19	779

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	215	46	37	179	39	90	606

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	12	8	10	6	12	26	5	116	19	8	192	9	423

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	33	4	1	78	136	31	283

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	5	38	5	21	18	13	1	97	6	3	157	41	405

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	382	1162	1240	1012	374	5	486	4661

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1015	395	485	1130	530	4	475	4034

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	5	1228	4	80	1320	190	92	0	32	0	0	99	3050

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	99	876	12	200	1046	126	169	75	54	10	117	188	2972

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	69	798	18	62	935	73	69	43	47	10	65	38	2227

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	61	745	32	92	811	87	70	36	34	30	44	49	2091

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	23	801	1	19	817	19	79	29	25	21	16	18	1868

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	38	716	7	14	818	25	41	12	75	43	11	12	1812

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	669	97	129	816	5	8	0	9	141	1	45	1924

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	41	278	353	474	383	26	28	65	26	211	99	509	2493

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	5	163	17	227	359	513	21	5	579	221	2124

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	57	801	203	30	638	0	4	30	82	101	17	21	1984

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	30	1032	197	41	768	0	0	0	9	197	5	43	2322

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	153	260	839	137	101	997	2487

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	301	127	672	265	112	337	1814

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	19	0	7	41	0	2	69

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	17	0	7	35	0	0	0	0	0	0	2	61

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	16	3	4	31	0	0	0	0	11	0	1	66

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	7	262	239	0	2	510	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	269	0	14	216	4	503	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	15	276	23	0	215	3	1	0	4	6	0	0	543

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	2	2	7	77	133	7	228

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	31	27	33	2	0	93

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	22	7	0	34	2	0	65

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	29	3	0	36	0	0	0	0	1	0	0	69

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	2	0	0	102	167	8	279

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	13	56	45	0	0	4	118

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	11	69	49	0	0	3	132

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## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 7 Existing AM + P

Report File: C:\...\ID Existing AM + P.pdf

7/12/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.645	36.0	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	0.504	30.7	C
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.338	4.4	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.404	17.6	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	WB Thru	0.365	9.6	A
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.446	11.7	B
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.089	14.2	B
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.028	12.0	B
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.080	11.3	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	WB Thru	0.336	9.2	A
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	WB Right	1.004	58.4	E
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.831	38.7	D
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.491	8.2	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.627	30.3	C
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.438	11.2	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	1.837	26.0	C
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.362	8.3	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.345	8.0	A
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.481	12.4	B
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	EB Thru	0.733	36.8	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.555	24.5	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.579	17.9	B
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.409	11.4	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.416	10.9	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	EBR2	0.592	21.9	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.005	8.4	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	SB Thru	0.050	9.2	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.017	9.0	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.003	9.6	A
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.007	9.8	A
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.185	4.0	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.003	10.0	A
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.003	8.9	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.002	8.8	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.001	8.9	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.004	10.1	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.005	8.5	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.004	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	36.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	615	801	308	563	657	1094	1048	0	519	375	0	691
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	5	0	0	18	0	0	0	46	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	77	0	0	274	0	0	141	0	0	173
Total Hourly Volume [veh/h]	628	806	231	563	675	820	1048	0	424	375	0	518
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	1.0000	0.9530	0.9530	1.0000	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	165	211	61	148	177	215	275	0	111	98	0	136
Total Analysis Volume [veh/h]	659	846	242	591	708	860	1100	0	445	393	0	544
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	2		3			3			1			
v_ci, Inbound Pedestrian Volume crossing mi	1		3			3			2			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	39	21	37	38	38
g / C, Green / Cycle	0.21	0.36	0.19	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.16	0.17	0.14	0.31	0.11
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	733	1855	672	1765	1199	1199
d1, Uniform Delay [s]	42.35	27.02	43.21	27.64	34.72	26.85
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.31	0.81	3.95	0.68	3.32	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.90	0.46	0.88	0.40	0.92	0.33
d, Delay for Lane Group [s/veh]	46.66	27.84	47.16	28.32	38.04	27.01
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.89	5.62	8.04	4.77	13.07	3.48
50th-Percentile Queue Length [ft/ln]	222.14	140.53	200.96	119.14	326.67	87.11
95th-Percentile Queue Length [veh/ln]	13.77	9.51	12.69	8.35	18.99	6.27
95th-Percentile Queue Length [ft/ln]	344.36	237.74	317.21	208.65	474.87	156.81



**Movement, Approach, & Intersection Results**

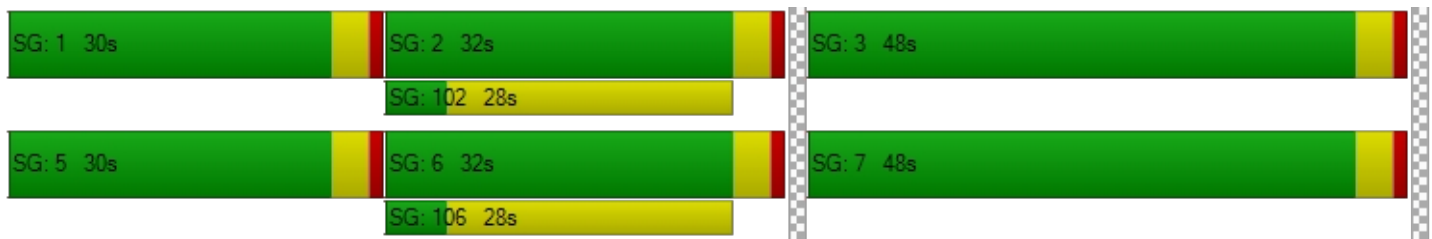
d_M, Delay for Movement [s/veh]	46.66	27.84	0.00	47.16	28.32	0.00	38.04	0.00	0.00	27.01	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	36.08			36.89			38.04			27.01		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	35.99											
Intersection LOS	D											
Intersection V/C	0.645											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			46.34			46.34		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.083			2.810		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	509			509			800			800		
d_b, Bicycle Delay [s]	30.53			30.53			19.77			19.77		
I_b,int, Bicycle LOS Score for Intersection	2.387			2.274			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	30.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.504

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	146	1235	88	550	875	156	190	194	58	49	243	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	17	0	0	64	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	39	0	0	15	0	0	88
Total Hourly Volume [veh/h]	146	1252	66	550	939	117	190	194	43	49	243	262
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	335	18	147	251	31	51	52	11	13	65	70
Total Analysis Volume [veh/h]	156	1339	71	588	1004	125	203	207	46	52	260	280
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	34	40	0	30	36	0	15	42	0	13	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	64	64	23	80	80	9	17	17	4	12	39
g / C, Green / Cycle	0.06	0.51	0.51	0.19	0.64	0.64	0.07	0.14	0.14	0.03	0.10	0.32
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.20	0.17	0.21	0.21	0.06	0.06	0.03	0.01	0.07	0.10
s, saturation flow rate [veh/h]	3514	5176	1838	3514	3618	1794	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	221	2660	945	661	2313	1147	260	491	219	120	347	903
d1, Uniform Delay [s]	57.47	18.48	18.49	49.51	10.28	10.29	56.89	49.53	48.07	59.19	55.06	32.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.12	0.43	1.22	4.38	0.38	0.76	5.04	0.58	0.47	2.44	3.25	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.39	0.39	0.89	0.33	0.33	0.78	0.42	0.21	0.43	0.75	0.31
d, Delay for Lane Group [s/veh]	61.59	18.91	19.71	53.88	10.66	11.04	61.94	50.11	48.54	61.62	58.31	32.63
Lane Group LOS	E	B	B	D	B	B	E	D	D	E	E	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.47	5.78	6.37	9.18	4.49	4.58	3.26	2.94	1.28	0.83	4.02	3.12
50th-Percentile Queue Length [ft/ln]	61.85	144.41	159.22	229.52	112.20	114.60	81.58	73.58	32.03	20.65	100.60	78.11
95th-Percentile Queue Length [veh/ln]	4.45	9.72	10.51	14.15	7.96	8.10	5.87	5.30	2.31	1.49	7.24	5.62
95th-Percentile Queue Length [ft/ln]	111.34	242.94	262.69	353.75	199.06	202.38	146.85	132.44	57.65	37.17	181.08	140.59

**Movement, Approach, & Intersection Results**

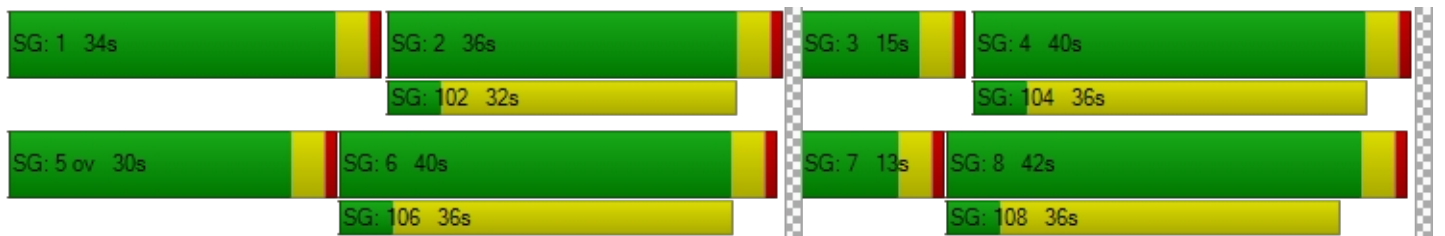
d_M, Delay for Movement [s/veh]	61.59	19.09	19.71	53.88	10.75	11.04	61.94	50.11	48.54	61.62	58.31	32.63
Movement LOS	E	B	B	D	B	B	E	D	D	E	E	C
d_A, Approach Delay [s/veh]	23.35			25.54			55.22			46.45		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	30.73											
Intersection LOS	C											
Intersection V/C	0.504											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.83	53.83	53.83	53.83
I_p,int, Pedestrian LOS Score for Intersection	3.386	3.451	2.956	3.275
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	576	512	608	576
d_b, Bicycle Delay [s]	31.69	34.61	30.29	31.69
I_b,int, Bicycle LOS Score for Intersection	2.215	2.525	1.948	2.121
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.338

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1408	23	56	888	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	0	0	64	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1425	17	56	952	10	47
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	375	4	15	251	3	12
Total Analysis Volume [veh/h]	1502	18	59	1003	11	50
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	24	0	9	33	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	51	3	59	4	4
g / C, Green / Cycle	0.73	0.73	0.05	0.84	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.29	0.01	0.02	0.19	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3763	1174	177	4320	93	83
d1, Uniform Delay [s]	3.68	2.64	32.15	1.19	31.75	32.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.02	1.09	0.13	0.56	6.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.40	0.02	0.33	0.23	0.12	0.60
d, Delay for Lane Group [s/veh]	4.00	2.66	33.24	1.32	32.31	39.44
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.16	0.03	0.50	0.18	0.19	0.96
50th-Percentile Queue Length [ft/ln]	29.02	0.87	12.38	4.58	4.68	24.07
95th-Percentile Queue Length [veh/ln]	2.09	0.06	0.89	0.33	0.34	1.73
95th-Percentile Queue Length [ft/ln]	52.24	1.57	22.29	8.25	8.42	43.33

**Movement, Approach, & Intersection Results**

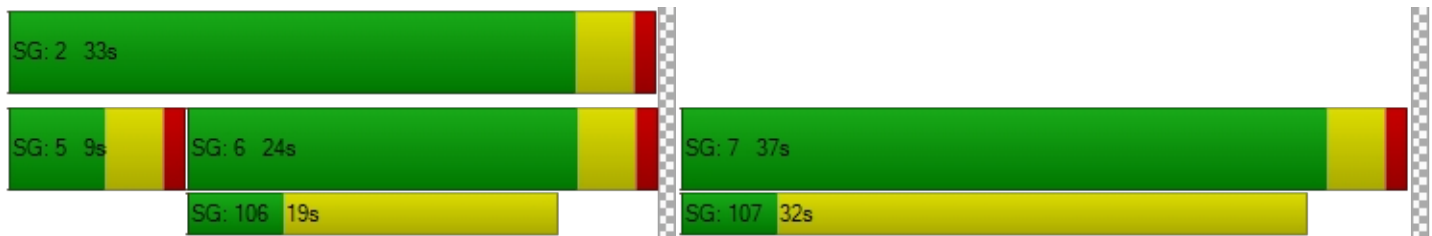
d_M, Delay for Movement [s/veh]	4.00	2.66	33.24	1.32	32.31	39.44
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	3.98		3.09		38.15	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.41					
Intersection LOS	A					
Intersection V/C	0.338					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.035	2.182
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	828	942
d_b, Bicycle Delay [s]	17.89	12.03	9.80
I_b,int, Bicycle LOS Score for Intersection	2.399	2.144	1.560
Bicycle LOS	B	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	17.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.404

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1235	35	56	761	65	99	59	41	48	75	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	64	0	0	0	0	0	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	16	0	0	10	0	0	27
Total Hourly Volume [veh/h]	134	1235	26	120	761	49	99	59	31	48	75	80
Peak Hour Factor	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	331	7	32	204	13	27	16	8	13	20	21
Total Analysis Volume [veh/h]	144	1324	28	129	816	53	106	63	33	51	80	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	11	40	0	11	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	55	55	5	55	55	7	10	10	4	7	7
g / C, Green / Cycle	0.06	0.61	0.61	0.06	0.61	0.61	0.07	0.11	0.11	0.04	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.02	0.04	0.16	0.16	0.06	0.02	0.02	0.03	0.02	0.05
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1841	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	3170	989	199	2216	1128	137	406	181	75	282	126
d1, Uniform Delay [s]	41.85	9.10	6.89	41.67	8.05	8.05	40.94	36.17	36.28	42.64	39.19	40.48
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.96	0.41	0.05	3.55	0.28	0.56	9.05	0.18	0.48	10.37	0.54	6.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.72	0.42	0.03	0.65	0.26	0.26	0.78	0.16	0.18	0.68	0.28	0.68
d, Delay for Lane Group [s/veh]	46.81	9.50	6.94	45.21	8.33	8.62	49.98	36.35	36.76	53.01	39.74	46.83
Lane Group LOS	D	A	A	D	A	A	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.69	4.14	0.21	1.49	2.40	2.54	2.63	0.63	0.68	1.32	0.85	2.06
50th-Percentile Queue Length [ft/ln]	42.35	103.43	5.19	37.16	60.12	63.59	65.63	15.75	16.90	33.10	21.19	51.43
95th-Percentile Queue Length [veh/ln]	3.05	7.45	0.37	2.68	4.33	4.58	4.73	1.13	1.22	2.38	1.53	3.70
95th-Percentile Queue Length [ft/ln]	76.22	186.18	9.34	66.89	108.22	114.46	118.14	28.36	30.41	59.58	38.15	92.58

**Movement, Approach, & Intersection Results**

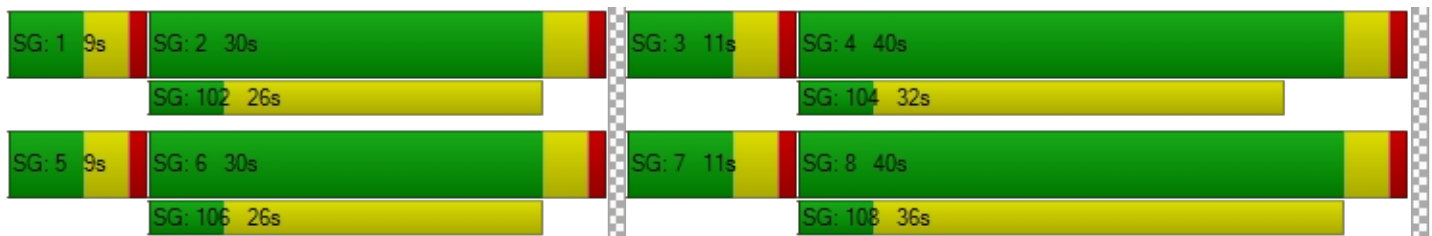
d_M, Delay for Movement [s/veh]	46.81	9.50	6.94	45.21	8.42	8.62	49.98	36.35	36.76	53.01	39.74	46.83
Movement LOS	D	A	A	D	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	13.05			13.18			43.57			45.67		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.64											
Intersection LOS	B											
Intersection V/C	0.404											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	36.49			36.49			36.49			36.49		
I_p,int, Pedestrian LOS Score for Intersection	3.125			3.061			2.551			2.570		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	577			577			799			799		
d_b, Bicycle Delay [s]	22.80			22.80			16.24			16.24		
I_b,int, Bicycle LOS Score for Intersection	2.387			2.117			1.735			1.761		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.365

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	3	3	11	0	10	9	177	3	8	203	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	5	0	0	0	0	41	32	18	11	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	3	8	11	0	10	9	218	35	26	214	10
Peak Hour Factor	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	2	3	0	3	3	64	10	8	63	3
Total Analysis Volume [veh/h]	16	4	9	13	0	12	11	255	41	30	251	12
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	696	710	842	827
Degree of Utilization, x	0.04	0.04	0.36	0.35

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.13	0.11	1.68	1.61
95th-Percentile Queue Length [ft]	3.25	2.73	42.01	40.21
Approach Delay [s/veh]	8.40	8.25	9.71	9.73
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	9.60			
Intersection LOS	A			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	2	2	0	9	0	0	23	23	9	23	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	167	32	6	83	5	5	104	97	70	151	19
Peak Hour Factor	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	47	9	2	23	1	1	29	27	20	42	5
Total Analysis Volume [veh/h]	73	187	36	7	93	6	6	116	109	78	169	21
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	663	622	689	662
Degree of Utilization, x	0.45	0.17	0.34	0.40

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	2.30	0.61	1.48	1.96
95th-Percentile Queue Length [ft]	57.54	15.25	36.88	49.04
Approach Delay [s/veh]	12.72	9.97	10.84	12.08
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	11.73			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.089

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	208	39	22	177	37	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	9	18	2	2	70
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	217	48	40	179	39	107
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	13	11	49	11	29
Total Analysis Volume [veh/h]	238	53	44	196	43	117
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.09	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	7.91	0.00	14.17	11.31
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.11	0.11	0.93	0.93
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.66	2.66	23.28	23.28
d_A, Approach Delay [s/veh]	0.00		1.45		12.08	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.30					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	8	10	6	12	26	5	110	6	8	172	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	0	0	0	0	7	18	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	8	10	6	12	26	5	117	24	8	200	9
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	2	3	2	3	7	1	31	6	2	52	2
Total Analysis Volume [veh/h]	15	8	10	6	13	27	5	122	25	8	209	9
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**




V/C, Movement V/C Ratio	0.03	0.01	0.01	0.01	0.02	0.03	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.04	11.86	9.24	11.78	11.98	9.71	7.65	0.00	0.00	7.50	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.17	0.21	0.21	0.21	0.01	0.01	0.01	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	4.22	4.22	4.22	5.37	5.37	5.37	0.28	0.28	0.28	0.42	0.42	0.42
d_A, Approach Delay [s/veh]	11.15			10.62			0.25			0.27		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.09											
Intersection LOS	B											



**Intersection Level Of Service Report**  
**Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.080

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	26	4	1	61	76	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	21	79	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	4	1	82	155	39
Peak Hour Factor	0.6840	0.6840	0.6840	0.6840	0.6840	0.6840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	1	0	30	57	14
Total Analysis Volume [veh/h]	50	6	1	120	227	57
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.27	10.10	7.79	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.14	7.14	0.06	0.06	0.00	0.00
d_A, Approach Delay [s/veh]	11.15		0.06		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.37					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	8	0	0	0	31	0	0	122	33
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	38	5	22	18	13	1	103	6	3	187	50
Peak Hour Factor	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	12	2	7	6	4	0	33	2	1	60	16
Total Analysis Volume [veh/h]	6	49	6	28	23	17	1	132	8	4	239	64
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	722	727	704	816	723	844
Degree of Utilization, x	0.08	0.09	0.19	0.01	0.34	0.08

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.28	0.31	0.69	0.03	1.48	0.25
95th-Percentile Queue Length [ft]	6.90	7.71	17.31	0.74	37.03	6.14
Approach Delay [s/veh]	8.45	8.46	8.90		9.58	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	9.16					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	58.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.004

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	5	0	0	19	0	0	0	0	48	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	253	0	0	0	0	0	122
Total Hourly Volume [veh/h]	384	1163	0	0	1244	759	0	0	0	387	5	364
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	301	0	0	322	196	0	0	0	100	1	94
Total Analysis Volume [veh/h]	397	1203	0	0	1286	785	0	0	0	400	5	376
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	23	67	0	0	44	0	0	0	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	90	90	90	90		90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	19	63	40	40		19	19
g / C, Green / Cycle	0.21	0.70	0.44	0.44		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.25	0.35	0.26	0.51		0.24	0.25
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1715	1530
c, Capacity [veh/h]	342	2398	2176	679		363	324
d1, Uniform Delay [s]	35.50	6.26	18.88	25.04		35.50	35.50
k, delay calibration	0.26	0.50	0.50	0.50		0.24	0.26
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	87.82	0.75	1.19	86.25		69.43	89.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.16	0.50	0.59	1.16		1.12	1.16
d, Delay for Lane Group [s/veh]	123.32	7.01	20.07	111.30		104.93	125.18
Lane Group LOS	F	A	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	15.66	4.53	6.64	29.72		14.74	14.97
50th-Percentile Queue Length [ft/ln]	391.61	113.36	166.02	742.90		368.56	374.24
95th-Percentile Queue Length [veh/ln]	23.89	8.03	10.87	42.78		22.28	22.99
95th-Percentile Queue Length [ft/ln]	597.14	200.67	271.67	1069.40		556.96	574.79



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	123.32	7.01	0.00	0.00	20.07	111.30	0.00	0.00	0.00	104.93	104.93	125.18
Movement LOS	F	A			C	F				F	F	F
d_A, Approach Delay [s/veh]	35.87				54.65		0.00				114.68	
Approach LOS	D				D		A				F	
d_I, Intersection Delay [s/veh]	58.43											
Intersection LOS	E											
Intersection V/C	1.004											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	36.46	36.46
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.418	2.409
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	889	0	422
d_b, Bicycle Delay [s]	4.06	13.90	45.01	28.02
I_b,int, Bicycle LOS Score for Intersection	2.880	2.838	4.132	3.050
Bicycle LOS	C	C	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	38.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.831

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1001	385	485	1080	0	530	4	441	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	17	12	0	66	0	0	0	45	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	99	0	0	0	0	0	122	0	0	0
Total Hourly Volume [veh/h]	0	1018	298	485	1146	0	530	4	364	0	0	0
Peak Hour Factor	1.0000	0.9630	0.9630	0.9630	0.9630	1.0000	0.9630	0.9630	0.9630	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	264	77	126	298	0	138	1	94	0	0	0
Total Analysis Volume [veh/h]	0	1057	309	504	1190	0	550	4	378	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	20	0	26	46	0	0	24	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	16	16	22	42	20	20	
g / C, Green / Cycle	0.23	0.23	0.31	0.60	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.22	0.20	0.31	0.35	0.28	0.30	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1565	
c, Capacity [veh/h]	1124	351	508	2057	463	447	
d1, Uniform Delay [s]	26.60	26.14	24.00	8.60	24.95	25.09	
k, delay calibration	0.50	0.50	0.25	0.50	0.20	0.24	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	15.83	25.64	26.29	1.19	23.45	47.74	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.94	0.88	0.99	0.58	0.99	1.06	
d, Delay for Lane Group [s/veh]	42.42	51.78	50.29	9.79	48.40	72.83	
Lane Group LOS	D	D	D	A	D	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	7.10	7.20	11.38	4.81	10.02	12.84	
50th-Percentile Queue Length [ft/ln]	177.46	179.93	284.47	120.28	250.57	321.00	
95th-Percentile Queue Length [veh/ln]	11.47	11.60	16.91	8.41	15.22	19.40	
95th-Percentile Queue Length [ft/ln]	286.69	289.92	422.78	210.21	380.38	484.96	

**Movement, Approach, & Intersection Results**

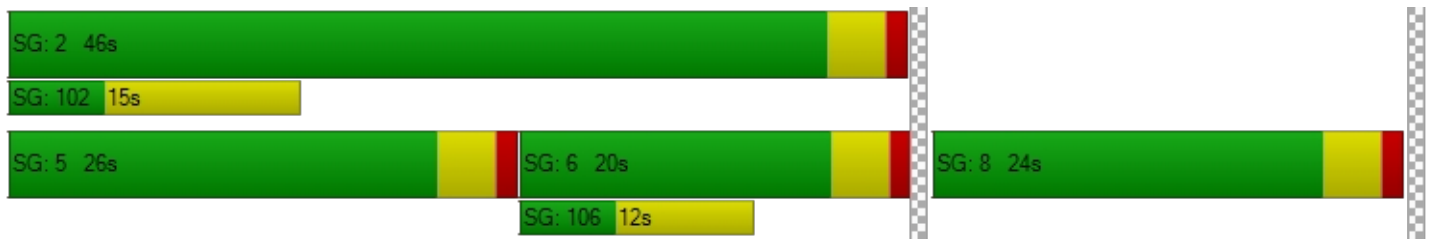
d_M, Delay for Movement [s/veh]	0.00	42.42	51.78	50.29	9.79	0.00	52.26	72.83	72.83	0.00	0.00	0.00
Movement LOS		D	D	D	A		D	E	E			
d_A, Approach Delay [s/veh]		44.54		21.84			60.87			0.00		
Approach LOS		D		C			E			A		
d_I, Intersection Delay [s/veh]	38.72											
Intersection LOS	D											
Intersection V/C	0.831											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]		0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]		0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]		0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]		0.00		0.00		26.64		26.64
I_p,int, Pedestrian LOS Score for Intersection		0.000		0.000		2.445		2.150
Crosswalk LOS		F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane		2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]		456		1198		570		0
d_b, Bicycle Delay [s]		20.89		5.64		17.91		35.06
I_b,int, Bicycle LOS Score for Intersection		2.365		2.957		3.299		4.132
Bicycle LOS		B		C		C		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	8.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1205	4	80	1236	190	92	0	32	0	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	111	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	48	0	0	8	0	0	25
Total Hourly Volume [veh/h]	5	1234	3	80	1347	142	92	0	24	0	0	74
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	327	1	21	357	38	24	0	6	0	0	20
Total Analysis Volume [veh/h]	5	1310	3	85	1430	151	98	0	25	0	0	79
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	12	19	0	0	42	0	0	42	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	55	47	47	55	51	51	7	7	7
g / C, Green / Cycle	0.79	0.67	0.67	0.79	0.72	0.72	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.01	0.36	0.36	0.15	0.42	0.10	0.07	0.02	0.05
s, saturation flow rate [veh/h]	438	1800	1799	558	3427	1530	1341	1530	1530
c, Capacity [veh/h]	411	1208	1207	502	2474	1105	137	151	202
d1, Uniform Delay [s]	3.27	5.98	5.98	3.49	4.65	3.01	30.86	28.96	30.04
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	1.76	1.76	0.73	0.99	0.26	6.75	0.51	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	0.54	0.54	0.17	0.58	0.14	0.71	0.17	0.39
d, Delay for Lane Group [s/veh]	3.28	7.74	7.74	4.22	5.64	3.27	37.61	29.47	31.27
Lane Group LOS	A	A	A	A	A	A	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.01	4.21	4.21	0.21	3.41	0.50	1.81	0.39	1.29
50th-Percentile Queue Length [ft/ln]	0.19	105.23	105.18	5.34	85.35	12.47	45.35	9.85	32.27
95th-Percentile Queue Length [veh/ln]	0.01	7.57	7.57	0.38	6.15	0.90	3.27	0.71	2.32
95th-Percentile Queue Length [ft/ln]	0.34	189.35	189.27	9.62	153.64	22.45	81.64	17.74	58.08

**Movement, Approach, & Intersection Results**

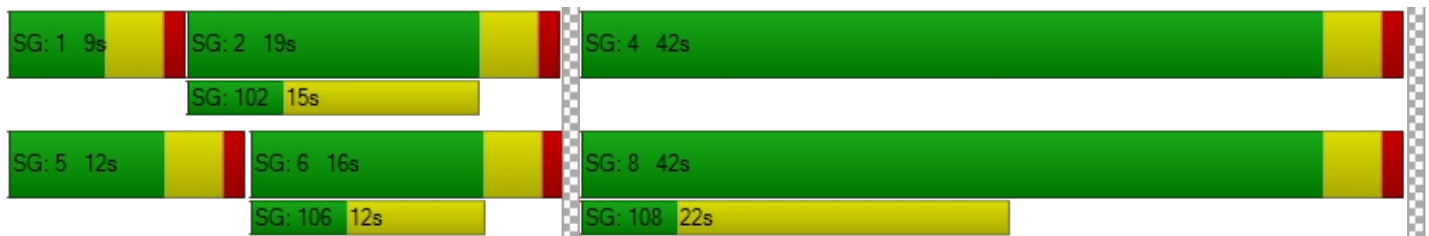
d_M, Delay for Movement [s/veh]	3.28	7.74	7.74	4.22	5.64	3.27	37.61	29.47	29.47	31.27	31.27	31.27
Movement LOS	A	A	A	A	A	A	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.72			5.36			35.96			31.27		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	8.16											
Intersection LOS	A											
Intersection V/C	0.491											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.61	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	2.833	0.000	2.055	1.918
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	343	428	1085	1085
d_b, Bicycle Delay [s]	24.06	21.64	7.34	7.34
I_b,int, Bicycle LOS Score for Intersection	2.648	2.974	1.776	1.731
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.627

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	111	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	32	0	0	14	0	0	47
Total Hourly Volume [veh/h]	99	882	9	200	1073	94	169	75	40	10	117	141
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	235	2	53	286	25	45	20	11	3	31	38
Total Analysis Volume [veh/h]	106	941	10	213	1145	100	180	80	43	11	125	150
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	18	36	0	16	26	0	21	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	41	41	14	48	48	12	22	22	1	12	12
g / C, Green / Cycle	0.08	0.43	0.43	0.15	0.50	0.50	0.13	0.24	0.24	0.01	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.07	0.26	0.26	0.13	0.35	0.35	0.11	0.02	0.03	0.01	0.07	0.10
s, saturation flow rate [veh/h]	1619	1800	1793	1619	1800	1750	1619	3427	1530	1619	1800	1530
c, Capacity [veh/h]	132	781	778	239	900	875	205	808	361	24	222	189
d1, Uniform Delay [s]	42.96	20.74	20.74	39.79	18.27	18.34	40.81	28.46	28.60	46.52	39.29	40.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.77	3.53	3.55	10.82	4.49	4.72	11.19	0.05	0.15	13.68	2.23	7.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.61	0.61	0.89	0.70	0.70	0.88	0.10	0.12	0.47	0.56	0.79
d, Delay for Lane Group [s/veh]	53.73	24.28	24.29	50.61	22.77	23.06	52.00	28.51	28.74	60.20	41.52	47.90
Lane Group LOS	D	C	C	D	C	C	D	C	C	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.82	8.57	8.54	5.53	11.07	10.92	4.73	0.71	0.78	0.35	2.86	3.76
50th-Percentile Queue Length [ft/ln]	70.52	214.30	213.59	138.33	276.81	273.08	118.14	17.87	19.51	8.65	71.54	93.98
95th-Percentile Queue Length [veh/ln]	5.08	13.37	13.34	9.39	16.53	16.34	8.29	1.29	1.40	0.62	5.15	6.77
95th-Percentile Queue Length [ft/ln]	126.94	334.34	333.42	234.78	413.24	408.59	207.27	32.16	35.11	15.57	128.77	169.16

**Movement, Approach, & Intersection Results**

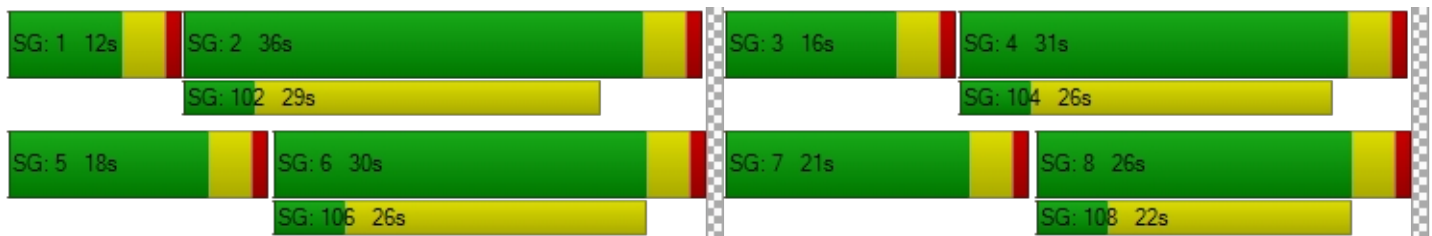
d_M, Delay for Movement [s/veh]	53.73	24.28	24.29	50.61	22.90	23.06	52.00	28.51	28.74	60.20	41.52	47.90
Movement LOS	D	C	C	D	C	C	D	C	C	E	D	D
d_A, Approach Delay [s/veh]	27.24			26.96			42.50			45.59		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	30.29											
Intersection LOS	C											
Intersection V/C	0.627											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.97	38.97	38.97	38.97
I_p,int, Pedestrian LOS Score for Intersection	2.752	2.959	2.713	2.628
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	673	463	568
d_b, Bicycle Delay [s]	25.09	20.92	28.09	24.37
I_b,int, Bicycle LOS Score for Intersection	2.434	2.789	1.821	1.834
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.438

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	18	62	871	53	63	43	47	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	0	0	84	28	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	20	0	0	12	0	0	10
Total Hourly Volume [veh/h]	69	802	13	62	955	61	70	43	35	10	65	28
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	209	3	16	249	16	18	11	9	3	17	7
Total Analysis Volume [veh/h]	72	836	14	65	996	64	73	45	36	10	68	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	25	0	9	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	38	38	3	37	37	7	7
g / C, Green / Cycle	0.06	0.63	0.63	0.06	0.62	0.62	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.04	0.24	0.24	0.04	0.30	0.30	0.10	0.06
s, saturation flow rate [veh/h]	1619	1800	1790	1619	1800	1762	1601	1752
c, Capacity [veh/h]	98	1124	1118	93	1119	1095	278	273
d1, Uniform Delay [s]	27.80	5.56	5.56	27.85	6.13	6.14	25.76	24.92
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.26	0.97	0.98	9.21	1.47	1.50	1.72	0.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.38	0.38	0.70	0.48	0.48	0.55	0.39
d, Delay for Lane Group [s/veh]	38.06	6.53	6.54	37.06	7.60	7.64	27.48	25.83
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.24	2.19	2.18	1.11	3.07	3.01	2.14	1.37
50th-Percentile Queue Length [ft/ln]	31.10	54.72	54.44	27.71	76.69	75.37	53.51	34.15
95th-Percentile Queue Length [veh/ln]	2.24	3.94	3.92	2.00	5.52	5.43	3.85	2.46
95th-Percentile Queue Length [ft/ln]	55.98	98.49	98.00	49.88	138.05	135.67	96.31	61.47

**Movement, Approach, & Intersection Results**

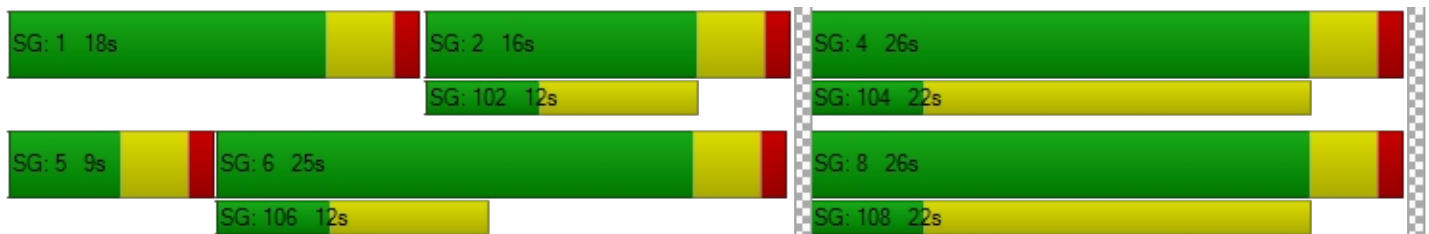
d_M, Delay for Movement [s/veh]	38.06	6.53	6.54	37.06	7.62	7.64	27.48	27.48	27.48	25.83	25.83	25.83
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.99			9.32			27.48			25.83		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.17											
Intersection LOS	B											
Intersection V/C	0.438											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.688			2.821			1.903			1.870		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	699			399			732			732		
d_b, Bicycle Delay [s]	12.71			19.24			12.07			12.07		
I_b,int, Bicycle LOS Score for Intersection	2.324			2.504			1.834			1.753		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.837

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	62	0	0	0	0	84	22	2	15	0	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	27	0	0	9	0	0	12
Total Hourly Volume [veh/h]	77	745	24	92	811	80	74	36	28	30	46	37
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	203	7	25	221	22	20	10	8	8	13	10
Total Analysis Volume [veh/h]	84	811	26	100	882	87	81	39	30	33	50	40
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	19	0	20	21	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	26	26	5	27	27	22	22	22	22
g / C, Green / Cycle	0.06	0.40	0.40	0.08	0.41	0.41	0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.05	0.23	0.23	0.06	0.27	0.27	1.51	0.02	0.33	0.03
s, saturation flow rate [veh/h]	1619	1800	1780	1619	1800	1744	79	1530	249	1530
c, Capacity [veh/h]	105	723	715	126	746	723	119	514	161	514
d1, Uniform Delay [s]	29.97	15.19	15.19	29.45	15.33	15.33	27.73	14.62	17.75	14.72
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.25	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.88	3.41	3.44	10.58	4.54	4.68	83.62	0.05	5.73	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.58	0.58	0.79	0.66	0.66	1.00	0.06	0.52	0.08
d, Delay for Lane Group [s/veh]	42.85	18.59	18.63	40.03	19.86	20.01	111.35	14.67	23.48	14.78
Lane Group LOS	D	B	B	D	B	C	F	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.62	5.05	5.00	1.84	6.16	6.00	4.59	0.28	1.05	0.38
50th-Percentile Queue Length [ft/ln]	40.41	126.16	124.98	45.94	154.03	150.01	114.65	7.12	26.17	9.56
95th-Percentile Queue Length [veh/ln]	2.91	8.73	8.67	3.31	10.23	10.02	8.12	0.51	1.88	0.69
95th-Percentile Queue Length [ft/ln]	72.73	218.27	216.65	82.70	255.80	250.44	202.96	12.81	47.10	17.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	42.85	18.61	18.63	40.03	19.93	20.01	111.35	111.35	14.67	23.48	23.48	14.78
Movement LOS	D	B	B	D	B	C	F	F	B	C	C	B
d_A, Approach Delay [s/veh]	20.82			21.82			92.01			20.65		
Approach LOS	C			C			F			C		
d_I, Intersection Delay [s/veh]	26.00											
Intersection LOS	C											
Intersection V/C	1.837											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.12			24.12			24.12			24.12		
I_p,int, Pedestrian LOS Score for Intersection	2.710			2.836			2.070			2.042		
Crosswalk LOS	B			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	462			523			677			677		
d_b, Bicycle Delay [s]	19.23			17.72			14.22			14.22		
I_b,int, Bicycle LOS Score for Intersection	2.326			2.464			1.822			1.782		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	23	755	1	19	805	19	79	29	25	21	16	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	62	0	0	15	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	5	0	0	6	0	0	5
Total Hourly Volume [veh/h]	23	817	1	19	820	14	79	29	19	21	16	13
Peak Hour Factor	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	228	0	5	229	4	22	8	5	6	4	4
Total Analysis Volume [veh/h]	26	912	1	21	915	16	88	32	21	23	18	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	40	40	2	40	40	7	7
g / C, Green / Cycle	0.03	0.67	0.67	0.03	0.66	0.66	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.25	0.25	0.01	0.26	0.26	0.09	0.03
s, saturation flow rate [veh/h]	1619	1800	1799	1619	1800	1789	1628	1717
c, Capacity [veh/h]	49	1197	1196	42	1188	1181	276	273
d1, Uniform Delay [s]	28.70	4.52	4.52	28.89	4.69	4.69	25.92	24.61
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.48	0.93	0.93	9.12	0.98	0.98	1.46	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.38	0.38	0.50	0.39	0.39	0.51	0.21
d, Delay for Lane Group [s/veh]	37.18	5.45	5.45	38.01	5.66	5.67	27.39	24.98
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	1.95	1.95	0.39	2.06	2.05	1.95	0.72
50th-Percentile Queue Length [ft/ln]	11.68	48.68	48.67	9.75	51.55	51.29	48.80	18.04
95th-Percentile Queue Length [veh/ln]	0.84	3.51	3.50	0.70	3.71	3.69	3.51	1.30
95th-Percentile Queue Length [ft/ln]	21.03	87.63	87.60	17.55	92.79	92.31	87.84	32.47

**Movement, Approach, & Intersection Results**

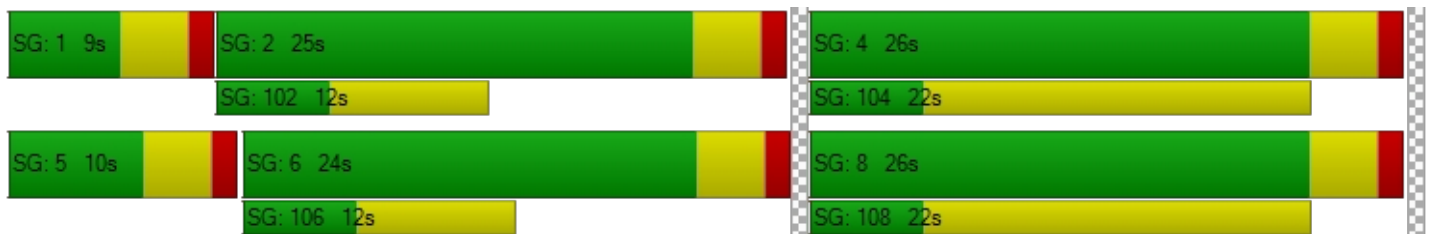
d_M, Delay for Movement [s/veh]	37.18	5.45	5.45	38.01	5.67	5.67	27.39	27.39	27.39	24.98	24.98	24.98
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.33			6.38			27.39			24.98		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.27											
Intersection LOS	A											
Intersection V/C	0.362											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.685			2.798			1.807			1.759		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.334			2.349			1.802			1.660		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	38	677	7	14	808	23	34	12	75	43	11	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	0	0	13	2	9	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	6	0	0	19	0	0	3
Total Hourly Volume [veh/h]	38	729	5	14	821	19	43	12	56	43	11	9
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	194	1	4	219	5	11	3	15	11	3	2
Total Analysis Volume [veh/h]	40	776	5	15	874	20	46	13	60	46	12	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	41	41	1	40	40	5	5
g / C, Green / Cycle	0.04	0.69	0.69	0.02	0.67	0.67	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.02	0.22	0.22	0.01	0.25	0.25	0.07	0.04
s, saturation flow rate [veh/h]	1619	1800	1796	1619	1800	1786	1684	1582
c, Capacity [veh/h]	68	1241	1238	32	1201	1191	237	245
d1, Uniform Delay [s]	28.29	3.70	3.70	29.15	4.43	4.43	26.63	25.86
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.03	0.67	0.67	10.63	0.89	0.90	1.64	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.59	0.32	0.32	0.47	0.37	0.37	0.50	0.28
d, Delay for Lane Group [s/veh]	36.32	4.37	4.37	39.78	5.32	5.33	28.27	26.47
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.69	1.36	1.36	0.30	1.87	1.86	1.68	0.91
50th-Percentile Queue Length [ft/ln]	17.20	34.06	34.00	7.44	46.86	46.55	41.95	22.84
95th-Percentile Queue Length [veh/ln]	1.24	2.45	2.45	0.54	3.37	3.35	3.02	1.64
95th-Percentile Queue Length [ft/ln]	30.97	61.31	61.20	13.38	84.35	83.79	75.51	41.11

**Movement, Approach, & Intersection Results**

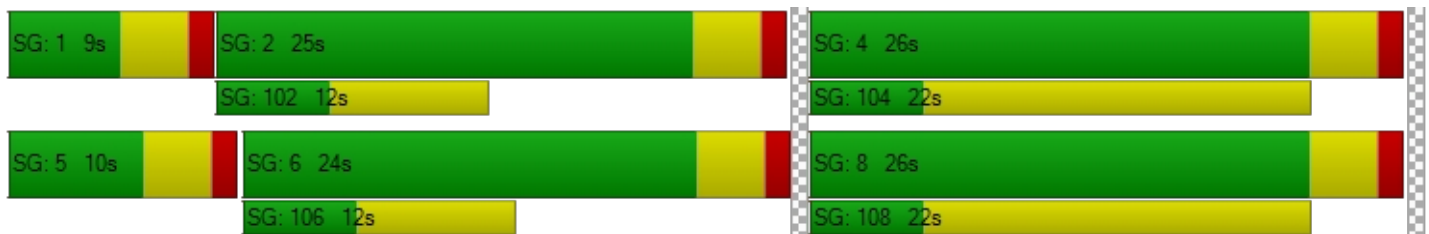
d_M, Delay for Movement [s/veh]	36.32	4.37	4.37	39.78	5.33	5.33	28.27	28.27	28.27	26.47	26.47	26.47
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.93			5.90			28.27			26.47		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.03											
Intersection LOS	A											
Intersection V/C	0.345											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.704			2.696			1.828			1.752		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.239			2.314			1.787			1.677		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.481

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	630	97	129	806	5	8	0	9	141	1	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	0	0	13	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	24	0	0	1	0	0	2	0	0	11
Total Hourly Volume [veh/h]	4	682	73	129	819	4	8	0	7	141	1	34
Peak Hour Factor	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	193	21	37	232	1	2	0	2	40	0	10
Total Analysis Volume [veh/h]	5	772	83	146	928	5	9	0	8	160	1	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	20	0	14	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	31	31	7	37	37	11	11	11
g / C, Green / Cycle	0.01	0.51	0.51	0.11	0.62	0.62	0.18	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.00	0.24	0.24	0.09	0.26	0.26	0.06	0.15	0.03
s, saturation flow rate [veh/h]	1619	1800	1739	1619	1800	1797	278	1076	1530
c, Capacity [veh/h]	11	920	889	182	1109	1107	141	310	271
d1, Uniform Delay [s]	29.69	9.46	9.46	26.00	5.97	5.97	21.20	23.91	20.86
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	25.36	1.74	1.80	8.06	1.17	1.18	0.38	1.35	0.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.47	0.47	0.80	0.42	0.42	0.12	0.52	0.14
d, Delay for Lane Group [s/veh]	55.05	11.20	11.26	34.07	7.14	7.14	21.58	25.26	21.11
Lane Group LOS	E	B	B	C	A	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.15	3.47	3.37	2.32	2.59	2.59	0.20	2.16	0.45
50th-Percentile Queue Length [ft/ln]	3.69	86.87	84.37	57.98	64.74	64.64	5.01	54.10	11.27
95th-Percentile Queue Length [veh/ln]	0.27	6.25	6.07	4.17	4.66	4.65	0.36	3.90	0.81
95th-Percentile Queue Length [ft/ln]	6.64	156.37	151.86	104.37	116.53	116.35	9.02	97.39	20.29



**Movement, Approach, & Intersection Results**

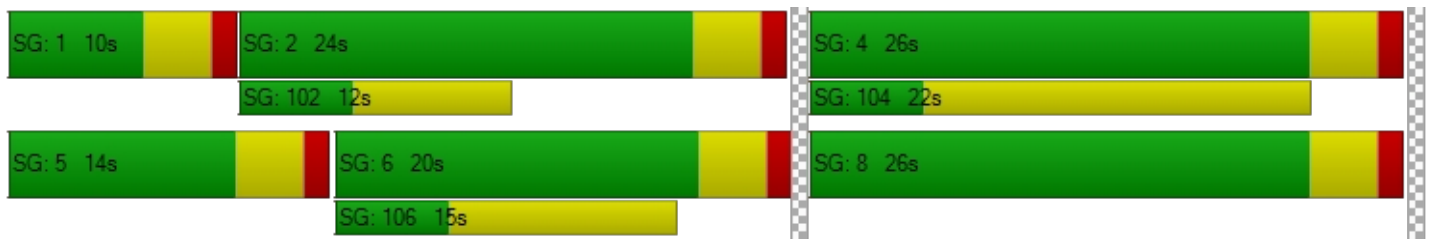
d_M, Delay for Movement [s/veh]	55.05	11.23	11.26	34.07	7.14	7.14	21.58	21.58	21.58	25.26	25.26	21.11
Movement LOS	E	B	B	C	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.48			10.79			21.58			24.45		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	12.42											
Intersection LOS	B											
Intersection V/C	0.481											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			21.68			21.68			21.68		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.667			1.713			2.087		
Crosswalk LOS	F			B			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			667			733			733		
d_b, Bicycle Delay [s]	16.14			13.34			12.04			12.04		
I_b,int, Bicycle LOS Score for Intersection	2.289			2.451			1.591			1.908		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	36.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.733

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	10	4	0	0	0	0	0	0	38
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	88	0	0	7	0	0	7	0	0	130
Total Hourly Volume [veh/h]	41	281	265	476	384	19	28	65	19	211	99	389
Peak Hour Factor	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	80	76	136	110	5	8	19	5	60	28	111
Total Analysis Volume [veh/h]	47	321	303	543	438	22	32	74	22	241	113	444
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	37	21	0	30	14	0	0	9	0	0	20	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	18	18	26	40	40	5	5	16
g / C, Green / Cycle	0.04	0.22	0.22	0.32	0.50	0.50	0.06	0.06	0.20
(v / s)_i Volume / Saturation Flow Rate	0.03	0.09	0.19	0.30	0.12	0.01	0.02	0.05	0.19
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1826	1837
c, Capacity [veh/h]	75	798	356	578	1804	805	109	110	368
d1, Uniform Delay [s]	37.79	26.71	29.96	26.50	11.46	10.21	36.01	37.33	31.75
k, delay calibration	0.11	0.50	0.50	0.30	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.37	1.51	21.80	17.79	0.32	0.06	1.47	18.30	14.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.63	0.40	0.85	0.94	0.24	0.03	0.29	0.87	0.96
d, Delay for Lane Group [s/veh]	46.16	28.22	51.76	44.29	11.78	10.27	37.48	55.64	46.39
Lane Group LOS	D	C	D	D	B	B	D	E	D
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.06	2.72	7.55	12.37	2.14	0.20	0.63	2.38	8.03
50th-Percentile Queue Length [ft/ln]	26.59	67.88	188.78	309.14	53.58	4.97	15.77	59.56	200.77
95th-Percentile Queue Length [veh/ln]	1.91	4.89	12.06	18.13	3.86	0.36	1.14	4.29	12.68
95th-Percentile Queue Length [ft/ln]	47.87	122.19	301.45	453.32	96.45	8.94	28.38	107.22	316.95

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	46.16	28.22	51.76	44.29	11.78	10.27	37.48	55.64	55.64	46.39	46.39	0.00
Movement LOS	D	C	D	D	B	B	D	E	E	D	D	
d_A, Approach Delay [s/veh]	40.11			29.35			51.10			46.39		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	36.79											
Intersection LOS	D											
Intersection V/C	0.733											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	425			250			125			400		
d_b, Bicycle Delay [s]	24.83			30.65			35.18			25.63		
I_b,int, Bicycle LOS Score for Intersection	2.186			2.393			1.782			2.144		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	24.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	5	163	17	227	359	505	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	10	0	0	38	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	57	0	0	5	0	0	55
Total Hourly Volume [veh/h]	9	5	4	163	17	170	359	515	16	5	589	166
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	45	5	47	99	142	4	1	163	46
Total Analysis Volume [veh/h]	10	6	4	180	19	188	397	570	18	6	652	184
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	26	35	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	29	18	34	34	1	16	16
g / C, Green / Cycle	0.38	0.38	0.38	0.25	0.45	0.45	0.01	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.12	0.22	0.16	0.01	0.00	0.18	0.11
s, saturation flow rate [veh/h]	1034	1279	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	467	580	618	444	1622	724	17	768	343
d1, Uniform Delay [s]	15.18	17.47	16.21	27.38	13.56	11.56	36.97	28.43	26.30
k, delay calibration	0.50	0.50	0.50	0.12	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.17	1.61	1.27	7.08	0.13	0.01	11.89	2.75	1.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.04	0.34	0.30	0.89	0.35	0.02	0.35	0.85	0.54
d, Delay for Lane Group [s/veh]	15.35	19.08	17.48	34.45	13.69	11.57	48.86	31.18	27.61
Lane Group LOS	B	B	B	C	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.22	2.69	2.34	7.41	2.94	0.16	0.16	5.68	2.94
50th-Percentile Queue Length [ft/ln]	5.61	67.24	58.57	185.26	73.51	3.98	4.08	141.89	73.38
95th-Percentile Queue Length [veh/ln]	0.40	4.84	4.22	11.87	5.29	0.29	0.29	9.58	5.28
95th-Percentile Queue Length [ft/ln]	10.09	121.03	105.43	296.87	132.32	7.17	7.35	239.57	132.09

**Movement, Approach, & Intersection Results**

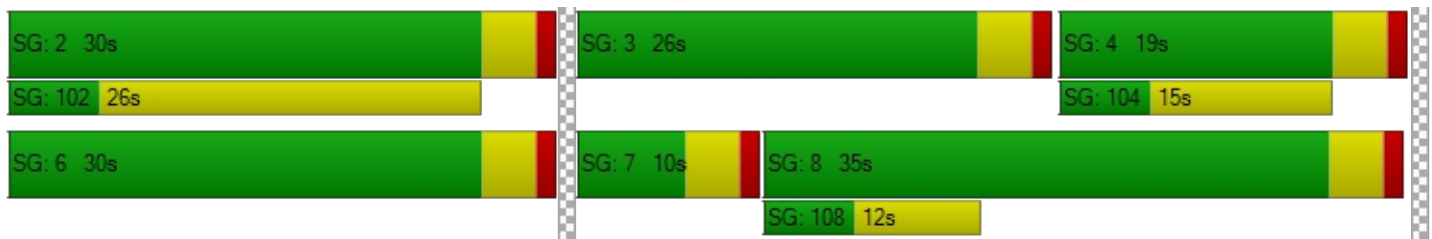
d_M, Delay for Movement [s/veh]	15.35	15.35	15.35	19.08	19.08	17.48	34.45	13.69	11.57	48.86	31.18	27.61
Movement LOS	B	B	B	B	B	B	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	15.35			18.30			22.02			30.52		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	24.52											
Intersection LOS	C											
Intersection V/C	0.555											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.07	29.07	29.07	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.742	2.367	2.775	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	826	400
d_b, Bicycle Delay [s]	16.03	16.03	12.93	24.03
I_b,int, Bicycle LOS Score for Intersection	1.594	2.292	2.376	2.300
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	38	0	0	10	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	21	0	0	5
Total Hourly Volume [veh/h]	57	811	152	30	640	0	4	30	61	101	17	16
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	219	41	8	173	0	1	8	16	27	5	4
Total Analysis Volume [veh/h]	61	875	164	32	690	0	4	32	66	109	18	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	22	0	9	19	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	50	50	3	49	49	5	5	7	7
g / C, Green / Cycle	0.05	0.62	0.62	0.03	0.61	0.61	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.46	0.10	0.02	0.36	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	1810	1750
c, Capacity [veh/h]	87	1178	1001	61	1150	978	118	101	154	149
d1, Uniform Delay [s]	37.62	10.75	6.45	38.14	9.81	0.00	35.95	36.77	35.74	34.27
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.88	4.26	0.35	6.97	2.32	0.00	1.45	7.02	5.92	0.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.74	0.16	0.53	0.60	0.00	0.31	0.66	0.71	0.24
d, Delay for Lane Group [s/veh]	47.51	15.01	6.80	45.12	12.13	0.00	37.39	43.79	41.66	35.08
Lane Group LOS	D	B	A	D	B	A	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	10.36	1.11	0.72	7.08	0.00	0.71	1.43	2.28	0.66
50th-Percentile Queue Length [ft/ln]	34.86	259.07	27.68	18.11	177.05	0.00	17.70	35.87	57.05	16.45
95th-Percentile Queue Length [veh/ln]	2.51	15.64	1.99	1.30	11.45	0.00	1.27	2.58	4.11	1.18
95th-Percentile Queue Length [ft/ln]	62.75	391.05	49.83	32.60	286.15	0.00	31.85	64.57	102.68	29.61

**Movement, Approach, & Intersection Results**

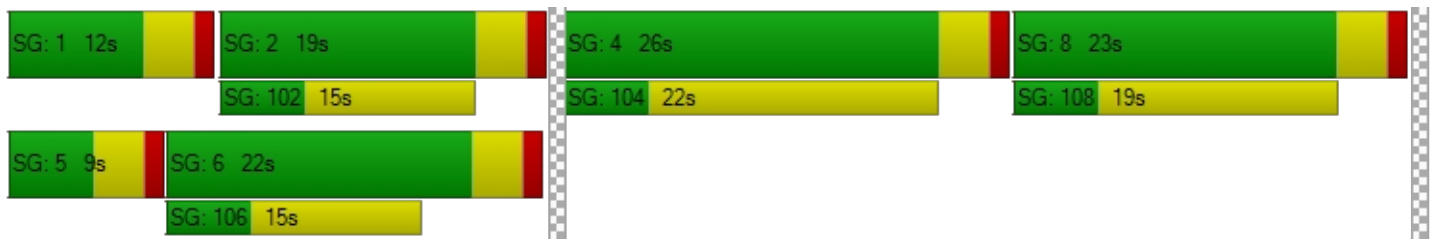
d_M, Delay for Movement [s/veh]	47.51	15.01	6.80	45.12	12.13	0.00	37.39	37.39	43.79	41.66	35.08	35.08
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.59			13.59			41.53			40.06		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.87											
Intersection LOS	B											
Intersection V/C	0.579											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	31.56			31.56			31.56			31.56		
I_p,int, Pedestrian LOS Score for Intersection	2.696			2.612			2.031			2.082		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	449			374			474			549		
d_b, Bicycle Delay [s]	24.08			26.46			23.31			21.08		
I_b,int, Bicycle LOS Score for Intersection	3.459			2.751			1.763			1.805		
Bicycle LOS	C			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-









**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.409

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1004	197	41	760	0	0	0	9	197	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	38	0	0	10	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	49	0	0	0	0	0	2	0	0	11
Total Hourly Volume [veh/h]	30	1042	148	41	770	0	0	0	7	197	5	32
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	288	41	11	212	0	0	0	2	54	1	9
Total Analysis Volume [veh/h]	33	1150	163	45	850	0	0	0	8	217	6	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	25	25	9	20	0	0	10	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	44	44	3	44	44	1	1	7	7	7
g / C, Green / Cycle	0.03	0.62	0.62	0.04	0.63	0.63	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.32	0.10	0.02	0.22	0.22	0.00	0.00	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	65	2243	1001	79	1193	1193	23	20	175	175	156
d1, Uniform Delay [s]	33.26	7.43	5.64	32.95	6.27	6.27	0.00	34.46	30.56	30.56	29.31
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.05	0.84	0.35	6.32	0.83	0.83	0.00	13.19	3.84	3.82	0.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.51	0.16	0.57	0.36	0.36	0.00	0.41	0.64	0.64	0.22
d, Delay for Lane Group [s/veh]	39.31	8.27	5.99	39.27	7.10	7.10	0.00	47.65	34.40	34.38	30.04
Lane Group LOS	D	A	A	D	A	A	A	D	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.64	4.03	0.91	0.87	2.64	2.64	0.00	0.20	1.93	1.94	0.56
50th-Percentile Queue Length [ft/ln]	16.10	100.80	22.70	21.65	66.02	66.02	0.00	5.08	48.37	48.45	13.96
95th-Percentile Queue Length [veh/ln]	1.16	7.26	1.63	1.56	4.75	4.75	0.00	0.37	3.48	3.49	1.01
95th-Percentile Queue Length [ft/ln]	28.98	181.44	40.86	38.97	118.84	118.84	0.00	9.14	87.07	87.22	25.13

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	39.31	8.27	5.99	39.27	7.10	7.10	0.00	0.00	47.65	34.39	34.38	30.04
Movement LOS	D	A	A	D	A	A	A	A	D	C	C	C
d_A, Approach Delay [s/veh]	8.76			8.72			47.65			33.80		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	11.44											
Intersection LOS	B											
Intersection V/C	0.409											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.697			0.000			2.264		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	599			456			171			627		
d_b, Bicycle Delay [s]	17.21			20.89			29.32			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.710			2.298			1.576			2.003		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.416

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	153	260	0	0	831	137	0	0	0	101	0	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	10	0	0	0	0	0	0	38
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	34	0	0	0	0	0	252
Total Hourly Volume [veh/h]	153	260	0	0	841	103	0	0	0	101	0	755
Peak Hour Factor	0.8970	0.8970	1.0000	1.0000	0.8970	0.8970	1.0000	1.0000	1.0000	0.8970	1.0000	0.8970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	72	0	0	234	29	0	0	0	28	0	210
Total Analysis Volume [veh/h]	171	290	0	0	938	115	0	0	0	113	0	842
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	12	21	0	0	9	0	0	0	0	39	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.60		0.08
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.26		0.06
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	218	2827	2151		155
d1, Uniform Delay [s]	25.70	1.56	6.67		26.84
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	6.12	0.07	0.65		6.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.78	0.10	0.44		0.73
d, Delay for Lane Group [s/veh]	31.83	1.63	7.32		33.32
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.60	0.15	2.63		1.77
50th-Percentile Queue Length [ft/ln]	65.03	3.66	65.78		44.31
95th-Percentile Queue Length [veh/ln]	4.68	0.26	4.74		3.19
95th-Percentile Queue Length [ft/ln]	117.05	6.58	118.41		79.76

**Movement, Approach, & Intersection Results**

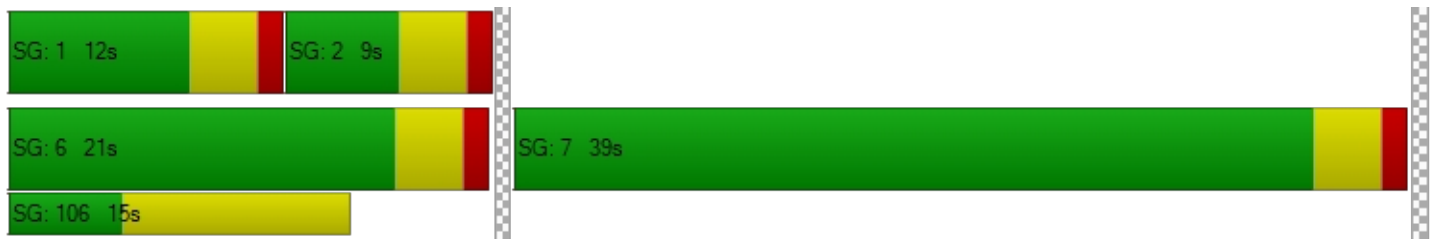
d_M, Delay for Movement [s/veh]	31.83	1.63	0.00	0.00	7.32	0.00	0.00	0.00	0.00	0.00	33.32	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	12.83			7.32			0.00			33.32			
Approach LOS	B			A			A			C			
d_I, Intersection Delay [s/veh]	10.94												
Intersection LOS	B												
Intersection V/C	0.416												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.958		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	566			166			0			1165		
d_b, Bicycle Delay [s]	15.45			25.25			30.04			5.24		
I_b,int, Bicycle LOS Score for Intersection	1.940			2.333			4.132			1.560		
Bicycle LOS	A			B			D			A		

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	21.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.592

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	127	664	265	0	112	0	337	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	10	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	32	0	0	0	0	0	84	0	0	0
Total Hourly Volume [veh/h]	0	301	95	674	265	0	112	0	253	0	0	0
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	82	26	183	72	0	30	0	69	0	0	0
Total Analysis Volume [veh/h]	0	327	103	733	288	0	122	0	275	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	36	48	0	12	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	14	26	44	8	8	
g / C, Green / Cycle	0.23	0.44	0.74	0.13	0.13	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.41	0.08	0.07	0.10	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	837	797	2671	233	368	
d1, Uniform Delay [s]	19.54	15.83	2.24	24.49	25.27	
k, delay calibration	0.50	0.28	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.37	11.02	0.08	1.82	3.04	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.39	0.92	0.11	0.52	0.75	
d, Delay for Lane Group [s/veh]	20.91	26.86	2.32	26.31	28.31	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	1.94	10.41	0.26	1.64	1.93	
50th-Percentile Queue Length [ft/ln]	48.57	260.22	6.52	41.11	48.28	
95th-Percentile Queue Length [veh/ln]	3.50	15.70	0.47	2.96	3.48	
95th-Percentile Queue Length [ft/ln]	87.43	392.50	11.73	74.00	86.90	

**Movement, Approach, & Intersection Results**

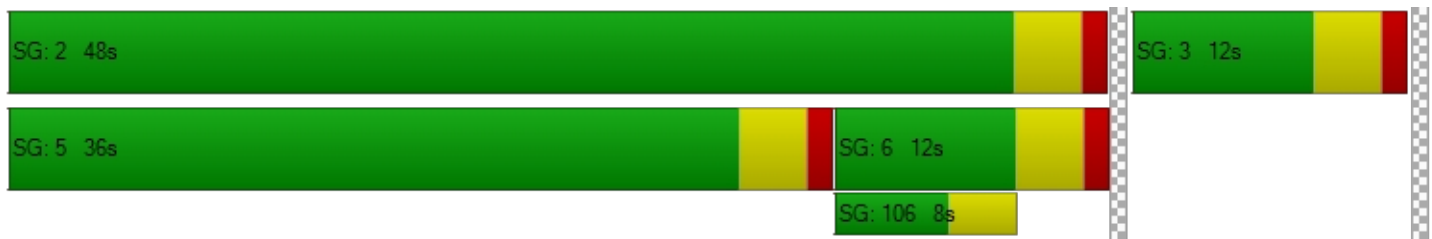
d_M, Delay for Movement [s/veh]	0.00	20.91	0.00	26.86	2.32	0.00	26.31	0.00	28.31	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	20.91			19.94			27.69			0.00		
Approach LOS	C			B			C			A		
d_I, Intersection Delay [s/veh]	21.88											
Intersection LOS	C											
Intersection V/C	0.592											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.119		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			1465			266			0		
d_b, Bicycle Delay [s]	22.57			2.15			22.57			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.829			2.402			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	11	0	0	11	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	18	32	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	0	18	43	0	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	5	11	0	1
Total Analysis Volume [veh/h]	20	0	19	45	0	5
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.28	0.00	9.09	8.42
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.90	0.90	0.36	0.36
d_A, Approach Delay [s/veh]	0.00		2.16		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.03					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type: Two-way stop  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 9.2  
 Level Of Service: A  
 Volume to Capacity (v/c): 0.050

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	0	32	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	19	0	0	43	0	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	0	0	11	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	20	0	0	45	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.85	9.09	8.39	8.82	9.21	8.51	7.20	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.16	0.16	0.16	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.70	1.70	1.70	3.94	3.94	3.94	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.09			9.21			2.40			2.40		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.17											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	4	5	27	0	0	0	0	15	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	18	4	5	38	0	0	0	0	15	0	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	1	1	10	0	0	0	0	4	0	0
Total Analysis Volume [veh/h]	0	19	4	5	40	0	0	0	0	16	0	1
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.25	0.00	0.00	8.91	9.40	8.47	8.97	9.46	8.46
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.00	0.00	1.40	1.40	1.40
d_A, Approach Delay [s/veh]	0.00			0.81			8.93			8.94		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.21											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	254	209	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	11	41	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	265	250	0	0	2
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	70	66	0	0	1
Total Analysis Volume [veh/h]	9	279	263	0	0	2
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.76	0.00	0.00	0.00	0.00	9.62
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.52	0.52	0.00	0.00	0.00	0.19
d_A, Approach Delay [s/veh]	0.24		0.00		9.62	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	254	0	0	209	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	19	9	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	0	19	218	0	5
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	0	5	57	0	1
Total Analysis Volume [veh/h]	288	0	19	229	0	5
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.84	0.00	0.00	9.79
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.12	1.12	0.00	0.50
d_A, Approach Delay [s/veh]	0.00		0.60		9.79	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.37					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	4.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.185

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	254	0	0	209	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	29	30	0	7	4	1	0	5	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	1	0	0	1	0	0	0
Total Hourly Volume [veh/h]	20	283	22	0	216	3	1	0	4	8	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	74	6	0	57	1	0	0	1	2	0	0
Total Analysis Volume [veh/h]	21	298	23	0	227	3	1	0	4	8	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	28	0	9	26	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	47	0	46	1	1
g / C, Green / Cycle	0.03	0.79	0.00	0.76	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.01	0.18	0.00	0.13	0.00	0.00
s, saturation flow rate [veh/h]	1714	1778	1714	1796	1744	1659
c, Capacity [veh/h]	46	1397	3	1367	94	140
d1, Uniform Delay [s]	28.85	1.68	0.00	1.97	29.42	29.47
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.94	0.38	0.00	0.27	0.23	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.46	0.23	0.00	0.17	0.05	0.06
d, Delay for Lane Group [s/veh]	35.79	2.06	0.00	2.23	29.65	29.64
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.36	0.15	0.00	0.38	0.07	0.12
50th-Percentile Queue Length [ft/ln]	8.96	3.72	0.00	9.58	1.86	2.90
95th-Percentile Queue Length [veh/ln]	0.65	0.27	0.00	0.69	0.13	0.21
95th-Percentile Queue Length [ft/ln]	16.13	6.70	0.00	17.24	3.35	5.22

**Movement, Approach, & Intersection Results**

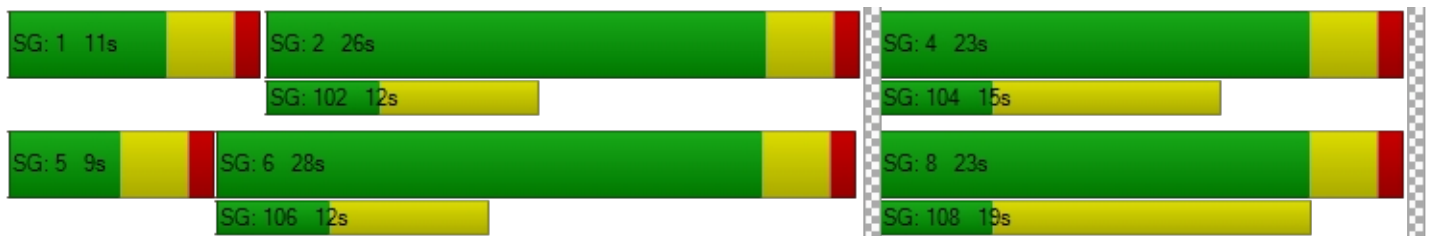
d_M, Delay for Movement [s/veh]	35.79	2.06	2.06	0.00	2.23	2.23	29.65	29.65	29.65	29.64	29.64	29.64
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.13			2.23			29.65			29.64		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	3.95											
Intersection LOS	A											
Intersection V/C	0.185											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.231			2.096			1.712			1.715		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			732			632			632		
d_b, Bicycle Delay [s]	10.83			12.07			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.137			1.941			1.570			1.573		
Bicycle LOS	B			A			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	62	80	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	9	18	70	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	9	80	150	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	2	21	39	2
Total Analysis Volume [veh/h]	2	2	9	84	158	9
Pedestrian Volume [ped/h]	0		0		0	

Version 2021 (SP 0-2)

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.99	9.08	7.55	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.38	0.38	0.48	0.48	0.00	0.00
d_A, Approach Delay [s/veh]	9.54		0.73		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.40					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	27	26	26	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	1	9	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	32	27	35	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	7	9	1	0
Total Analysis Volume [veh/h]	0	34	28	37	3	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	8.90	8.51
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	0.00		0.00		8.90	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	7	0	0	30	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	9	0	5	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	9	0	35	2	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	2	0	9	1	0
Total Analysis Volume [veh/h]	28	9	0	37	2	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.27	0.00	8.84	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.16	0.16
d_A, Approach Delay [s/veh]	0.00		0.00		8.84	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	7	0	0	30	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	4	0	7	0	0	0	0	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	36	4	0	37	0	0	0	0	1	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	1	0	10	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	38	4	0	39	0	0	0	0	1	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.28	0.00	0.00	8.94	9.43	8.47	8.94	9.42	8.48
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.08
d_A, Approach Delay [s/veh]	0.00			0.00			8.94			8.94		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.11											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	79	82	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	29	112	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	108	194	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	28	51	3
Total Analysis Volume [veh/h]	3	0	0	114	204	11
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.12	8.88	7.63	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.32	0.32	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.12		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	56	45	0	0	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	15	12	0	0	1
Total Analysis Volume [veh/h]	19	59	47	0	0	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	9.29	8.52
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.92	0.92	0.00	0.00	0.37	0.37
d_A, Approach Delay [s/veh]	1.78		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.40					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	18	5	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	74	50	0	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	19	13	0	0	1
Total Analysis Volume [veh/h]	16	78	53	0	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	9.39	8.54
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.77	0.77	0.00	0.00	0.30	0.30
d_A, Approach Delay [s/veh]	1.25		0.00		8.54	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.00					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 7 Existing AM + P

Report File: C:\...\ID Existing AM + P.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	628	806	308	563	675	1094	1048	565	375	691	6753

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	146	1252	88	550	939	156	190	194	58	49	243	350	4215

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1425	23	56	952	10	63	2529

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	134	1235	35	120	761	65	99	59	41	48	75	107	2779

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	14	3	8	11	0	10	9	218	35	26	214	10	558

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	65	167	32	6	83	5	5	104	97	70	151	19	804

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	217	48	40	179	39	107	630

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	14	8	10	6	12	26	5	117	24	8	200	9	439

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	34	4	1	82	155	39	315

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	5	38	5	22	18	13	1	103	6	3	187	50	451

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	384	1163	1244	1012	387	5	486	4681

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1018	397	485	1146	530	4	486	4066

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	5	1234	4	80	1347	190	92	0	32	0	0	99	3083

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	99	882	12	200	1073	126	169	75	54	10	117	188	3005

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	69	802	18	62	955	81	70	43	47	10	65	38	2260

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	77	745	32	92	811	107	74	36	37	30	46	49	2136

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	23	817	1	19	820	19	79	29	25	21	16	18	1887

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	38	729	7	14	821	25	43	12	75	43	11	12	1830

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	682	97	129	819	5	8	0	9	141	1	45	1940

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	41	281	353	476	384	26	28	65	26	211	99	519	2509

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	5	163	17	227	359	515	21	5	589	221	2136

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	57	811	203	30	640	0	4	30	82	101	17	21	1996

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	30	1042	197	41	770	0	0	0	9	197	5	43	2334

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	153	260	841	137	101	1007	2499

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	301	127	674	265	112	337	1816

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	19	0	18	43	0	5	85

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume	
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
27	Laurel Ave/Driveway 2	0	19	0	0	43	0	0	0	0	0	0	0	0	62

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	18	4	5	38	0	0	0	0	15	0	1	81

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	9	265	250	0	2	526	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	274	0	19	218	5	516	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	20	283	30	0	216	4	1	0	5	8	0	0	567



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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	2	2	9	80	150	9	252

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	32	27	35	3	0	97

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	27	9	0	35	2	0	73

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	36	4	0	37	0	0	0	0	1	0	0	78

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	3	0	0	108	194	10	315

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	18	56	45	0	0	5	124

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	15	74	50	0	0	4	143

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**Option 1: SP Adding Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Total Analysis Volume [veh/h]	76	189	38	7	101	6	6	134	126	86	187	21

**Intersection Settings**

**Lanes**




Capacity per Entry Lane [veh/h]	525	578	536	569	639	579
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	10.71	12.91	11.51	10.94	9.80	15.49
95th-Percentile Queue Length [veh]	0.50	1.86	0.80	0.90	0.78	2.87
95th-Percentile Queue Length [ft]	12.58	46.58	19.94	22.50	19.46	71.77
Approach Delay [s/veh]	12.36		11.51	10.37		15.49
Approach LOS	B		B	B		C
Intersection Delay [s/veh]	12.66					
Intersection LOS	B					

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**Option 1: SP Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	208	39	22	177	37	37
Total Analysis Volume [veh/h]	246	45	59	199	45	135

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	44	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.72	0.72	0.14
(v / s)_i Volume / Saturation Flow Rate	0.17	0.16	0.11
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1752	1592	1572
c, Capacity [veh/h]	1264	1222	229
X, volume / capacity	0.23	0.21	0.79
d, Delay for Lane Group [s/veh]	3.22	3.12	30.65
Lane Group LOS	A	A	C

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Critical Lane Group	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.52	0.66	2.69
50th-Percentile Queue Length [ft/ln]	13.08	16.54	67.18
95th-Percentile Queue Length [veh/ln]	0.94	1.19	4.84
95th-Percentile Queue Length [ft/ln]	23.55	29.77	120.92

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.22	3.22	3.12	3.12	30.65	30.65
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	3.22		3.12		30.65	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	9.96					
Intersection LOS	A					
Intersection V/C	0.281					

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**Option 1: SP EB Left Turn**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Total Analysis Volume [veh/h]	134	811	26	100	882	143	98	41	40	33	58	40

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	19	0	15	24	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.10	0.53	0.53	0.08	0.51	0.51	0.19	0.19	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.08	0.23	0.23	0.06	0.29	0.29	0.07	0.02	0.03	0.06	0.03	0.03
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1800	1780	1619	1800	1714	1366	1800	1530	1645	1530	1530
c, Capacity [veh/h]	162	957	947	125	916	872	251	344	292	396	292	292
X, volume / capacity	0.83	0.44	0.44	0.80	0.57	0.57	0.39	0.12	0.14	0.23	0.14	0.14
d, Delay for Lane Group [s/veh]	36.64	10.05	10.07	38.13	12.81	12.95	27.44	20.26	20.38	20.98	20.38	20.38
Lane Group LOS	D	B	B	D	B	B	C	C	C	C	C	C

Version 2021 (SP 0-2)

Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	2.23	3.10	3.07	1.71	4.60	4.42	1.35	0.46	0.45	1.05	0.45
50th-Percentile Queue Length [ft/ln]	55.67	77.52	76.78	42.79	114.94	110.40	33.87	11.47	11.30	26.17	11.30
95th-Percentile Queue Length [veh/ln]	4.01	5.58	5.53	3.08	8.11	7.86	2.44	0.83	0.81	1.88	0.81
95th-Percentile Queue Length [ft/ln]	100.21	139.53	138.20	77.02	202.85	196.56	60.96	20.65	20.34	47.11	20.34

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	36.64	10.06	10.07	38.13	12.86	12.95	27.44	20.26	20.38	20.98	20.98	20.38
Movement LOS	D	B	B	D	B	B	C	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	13.73			15.12			24.22			20.80		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	15.54											
Intersection LOS	B											
Intersection V/C	0.446											

Version 2021 (SP 0-2)

**Option 2: OY 1 Adding Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Total Analysis Volume [veh/h]	70	187	36	7	91	6	6	110	101	76	162	21

**Intersection Settings**

**Lanes**




Capacity per Entry Lane [veh/h]	550	607	565	587	662	599
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	10.20	12.04	10.80	10.21	9.20	13.53
95th-Percentile Queue Length [veh]	0.43	1.68	0.67	0.67	0.58	2.18
95th-Percentile Queue Length [ft]	10.87	42.08	16.72	16.80	14.59	54.46
Approach Delay [s/veh]	11.60		10.80	9.71		13.53
Approach LOS	B		B	A		B
Intersection Delay [s/veh]	11.61					
Intersection LOS	B					

Version 2021 (SP 0-2)

**Option 2: OY 1 Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	208	39	22	177	37	37
Total Analysis Volume [veh/h]	236	37	41	196	43	74

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	44	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.77	0.77	0.10
(v / s)_i Volume / Saturation Flow Rate	0.16	0.14	0.07
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1758	1646	1593
c, Capacity [veh/h]	1354	1338	154
X, volume / capacity	0.20	0.18	0.76
d, Delay for Lane Group [s/veh]	2.21	2.12	33.99
Lane Group LOS	A	A	C



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Critical Lane Group	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.21	0.36	1.86
50th-Percentile Queue Length [ft/ln]	5.14	9.01	46.56
95th-Percentile Queue Length [veh/ln]	0.37	0.65	3.35
95th-Percentile Queue Length [ft/ln]	9.26	16.23	83.81

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	2.21	2.21	2.12	2.12	33.99	33.99
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	2.21		2.12		33.99	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	8.11					
Intersection LOS	A					
Intersection V/C	0.229					

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**Option 2: OY 1 EB Left Turn**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Total Analysis Volume [veh/h]	66	811	26	100	882	71	76	39	27	33	48	40

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	20	0	14	25	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.06	0.55	0.55	0.08	0.57	0.57	0.17	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.06	0.27	0.27	0.06	0.02	0.02	0.05	0.03	0.03
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1800	1780	1619	1800	1753	1379	1800	1530	1552	1530	1530
c, Capacity [veh/h]	90	997	986	125	1036	1009	220	304	258	347	258	258
X, volume / capacity	0.73	0.42	0.42	0.80	0.47	0.47	0.35	0.13	0.10	0.23	0.15	0.15
d, Delay for Lane Group [s/veh]	38.65	9.11	9.12	38.24	8.90	8.94	28.25	21.37	21.27	22.05	21.56	21.56
Lane Group LOS	D	A	A	D	A	A	C	C	C	C	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	1.15	2.87	2.84	1.71	3.20	3.13	1.07	0.45	0.31	0.96	0.47
50th-Percentile Queue Length [ft/ln]	28.86	71.67	71.00	42.87	80.10	78.32	26.70	11.32	7.85	24.07	11.75
95th-Percentile Queue Length [veh/ln]	2.08	5.16	5.11	3.09	5.77	5.64	1.92	0.82	0.56	1.73	0.85
95th-Percentile Queue Length [ft/ln]	51.95	129.01	127.79	77.17	144.18	140.98	48.06	20.38	14.12	43.32	21.15

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	38.65	9.12	9.12	38.24	8.92	8.94	28.25	21.37	21.27	22.05	22.05	21.56
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	11.27			11.71			25.04			21.88		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	12.94											
Intersection LOS	B											
Intersection V/C	0.364											

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**Option 3: OY 2 Adding Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Total Analysis Volume [veh/h]	73	187	36	7	93	6	6	116	109	78	169	21

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	543	599	557	583	657	593
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	10.36	12.23	10.97	10.39	9.35	13.98
95th-Percentile Queue Length [veh]	0.46	1.72	0.70	0.73	0.63	2.34
95th-Percentile Queue Length [ft]	11.56	42.92	17.40	18.30	15.85	58.48
Approach Delay [s/veh]	11.77		10.97	9.87		13.98
Approach LOS	B		B	A		B
Intersection Delay [s/veh]	11.85					
Intersection LOS	B					

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**Option 3: OY 2 Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	208	39	22	177	37	37
Total Analysis Volume [veh/h]	238	40	44	196	43	88

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	44	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.76	0.76	0.11
(v / s)_i Volume / Saturation Flow Rate	0.16	0.15	0.08
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1755	1636	1586
c, Capacity [veh/h]	1332	1312	171
X, volume / capacity	0.21	0.18	0.77
d, Delay for Lane Group [s/veh]	2.43	2.32	33.03
Lane Group LOS	A	A	C

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Critical Lane Group	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.28	0.42	2.05
50th-Percentile Queue Length [ft/ln]	6.90	10.54	51.16
95th-Percentile Queue Length [veh/ln]	0.50	0.76	3.68
95th-Percentile Queue Length [ft/ln]	12.43	18.97	92.09

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	2.43	2.43	2.32	2.32	33.03	33.03
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	2.43		2.32		33.03	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	8.57					
Intersection LOS	A					
Intersection V/C	0.241					

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**Option 3: OY 2 EB Left Turn**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Total Analysis Volume [veh/h]	84	811	26	100	882	87	81	39	30	33	50	40

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	19	0	15	19	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.06	0.55	0.55	0.08	0.56	0.56	0.17	0.17	0.17	0.17	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.23	0.23	0.06	0.27	0.27	0.06	0.02	0.02	0.05	0.03	0.03
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1800	1780	1619	1800	1744	1376	1800	1530	1576	1530	1530
c, Capacity [veh/h]	105	988	977	125	1011	980	227	313	266	357	266	266
X, volume / capacity	0.80	0.43	0.43	0.80	0.49	0.49	0.36	0.12	0.11	0.23	0.15	0.15
d, Delay for Lane Group [s/veh]	40.89	9.31	9.33	38.13	9.61	9.66	28.07	21.12	21.09	21.81	21.30	21.30
Lane Group LOS	D	A	A	D	A	A	C	C	C	C	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	1.51	2.92	2.89	1.71	3.47	3.38	1.13	0.45	0.35	0.98	0.47
50th-Percentile Queue Length [ft/ln]	37.74	72.98	72.29	42.79	86.77	84.47	28.34	11.23	8.67	24.48	11.65
95th-Percentile Queue Length [veh/ln]	2.72	5.25	5.21	3.08	6.25	6.08	2.04	0.81	0.62	1.76	0.84
95th-Percentile Queue Length [ft/ln]	67.92	131.37	130.13	77.02	156.19	152.04	51.02	20.21	15.60	44.06	20.97

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	40.89	9.32	9.33	38.13	9.63	9.66	28.07	21.12	21.09	21.81	21.81	21.30
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	12.20			12.30			24.87			21.64		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.60											
Intersection LOS	B											
Intersection V/C	0.384											



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## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 8 Existing PM + P

Report File: C:\...\Existing PM + P.pdf

4/22/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Left	0.685	33.6	C
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.661	38.3	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.374	3.7	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.485	22.7	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.620	14.6	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	1.201	83.9	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.408	45.3	E
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.149	19.1	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.169	14.3	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.688	14.7	B
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	0.884	41.0	D
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	NB Thru	0.777	29.8	C
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.576	14.6	B
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	0.686	33.6	C
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.628	19.8	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	3.289	93.8	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	NB Left	0.399	8.9	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.536	16.0	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.649	19.5	B
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	NB Right	0.793	47.1	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.545	23.3	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.718	36.5	D
23	Market St/Rivera St	Signalized	HCM 6th Edition	NB Left	0.404	14.0	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.499	11.0	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.694	22.4	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.019	8.8	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	NB Thru	0.089	9.5	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.013	9.4	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.029	11.3	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.056	11.5	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.321	6.2	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.036	12.4	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.020	9.2	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.020	9.1	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.008	9.2	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.033	11.6	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.037	8.9	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.030	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	33.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	475	1171	571	592	946	882	976	0	525	479	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	34	0	0	15	0	0	0	37	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	221	0	0	141	0	0	151
Total Hourly Volume [veh/h]	557	1205	428	592	961	661	976	0	421	479	0	454
Peak Hour Factor	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	1.0000	0.9910	0.9910	1.0000	0.9910
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	141	304	108	149	242	167	246	0	106	121	0	115
Total Analysis Volume [veh/h]	562	1216	432	597	970	667	985	0	425	483	0	458
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		2			4			3			3	
v_ci, Inbound Pedestrian Volume crossing mi		3			3			4			2	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	25	32	0	25	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	40	20	41	33	33
g / C, Green / Cycle	0.18	0.38	0.19	0.39	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.16	0.23	0.17	0.19	0.28	0.14
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	638	1986	667	2029	1097	1097
d1, Uniform Delay [s]	41.83	26.04	41.48	23.86	34.49	28.78
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.19	1.42	4.54	0.81	2.94	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.88	0.61	0.90	0.48	0.90	0.44
d, Delay for Lane Group [s/veh]	46.02	27.46	46.01	24.67	37.43	29.06
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	7.24	8.01	7.80	5.96	11.10	4.40
50th-Percentile Queue Length [ft/ln]	181.12	200.15	195.08	149.05	277.48	110.01
95th-Percentile Queue Length [veh/ln]	11.66	12.65	12.38	9.97	16.56	7.84
95th-Percentile Queue Length [ft/ln]	291.48	316.16	309.61	249.15	414.08	196.02

**Movement, Approach, & Intersection Results**

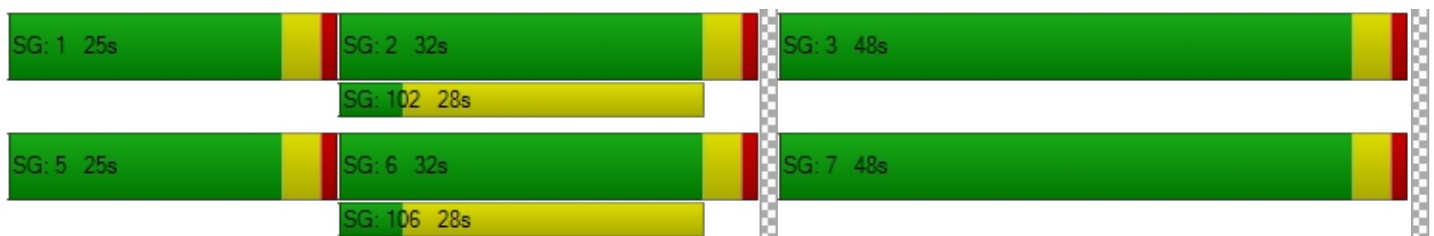
d_M, Delay for Movement [s/veh]	46.02	27.46	0.00	46.01	24.67	0.00	37.43	0.00	0.00	29.06	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	33.33			32.80			37.43			29.06		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	33.57											
Intersection LOS	C											
Intersection V/C	0.685											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			43.86			43.86		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.006			2.842		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	534			534			838			838		
d_b, Bicycle Delay [s]	28.21			28.21			17.70			17.70		
I_b,int, Bicycle LOS Score for Intersection	2.538			2.421			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	38.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	1262	183	675	1117	134	308	523	80	181	307	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	116	0	0	52	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	46	0	0	34	0	0	20	0	0	177
Total Hourly Volume [veh/h]	166	1378	137	675	1169	100	308	523	60	181	307	530
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	355	35	174	301	26	79	135	15	47	79	137
Total Analysis Volume [veh/h]	171	1421	141	696	1205	103	318	539	62	187	316	546
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	23	40	0	31	48	0	19	40	0	19	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	56	56	27	74	74	14	22	22	9	18	49
g / C, Green / Cycle	0.07	0.43	0.43	0.21	0.57	0.57	0.11	0.17	0.17	0.07	0.13	0.37
(v / s)_i Volume / Saturation Flow Rate	0.05	0.22	0.22	0.20	0.24	0.24	0.09	0.15	0.04	0.05	0.09	0.19
s, saturation flow rate [veh/h]	3514	5176	1789	3514	3618	1825	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	231	2218	767	730	2064	1041	372	618	276	246	488	1067
d1, Uniform Delay [s]	59.63	27.37	27.37	50.88	15.78	15.81	57.15	52.53	46.49	59.40	53.32	31.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.58	0.89	2.55	7.91	0.63	1.26	5.68	4.02	0.41	4.84	1.45	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.52	0.52	0.95	0.42	0.42	0.86	0.87	0.22	0.76	0.65	0.51
d, Delay for Lane Group [s/veh]	64.22	28.25	29.92	58.79	16.41	17.07	62.83	56.55	46.90	64.24	54.77	31.94
Lane Group LOS	E	C	C	E	B	B	E	E	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.84	8.58	9.26	11.77	7.12	7.42	5.32	8.70	1.73	3.11	4.85	6.42
50th-Percentile Queue Length [ft/ln]	70.98	214.41	231.41	294.25	178.01	185.40	132.91	217.51	43.31	77.71	121.30	160.39
95th-Percentile Queue Length [veh/ln]	5.11	13.38	14.25	17.40	11.50	11.88	9.10	13.54	3.12	5.60	8.46	10.57
95th-Percentile Queue Length [ft/ln]	127.77	334.49	356.15	434.91	287.42	297.06	227.44	338.45	77.96	139.89	211.61	264.24

**Movement, Approach, & Intersection Results**

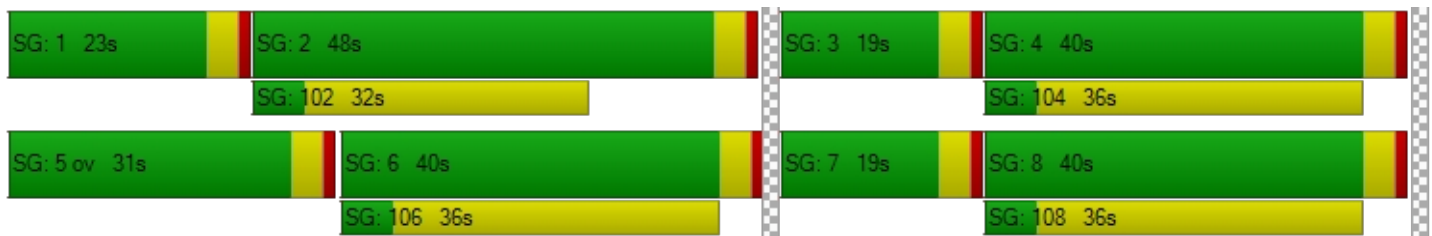
d_M, Delay for Movement [s/veh]	64.22	28.56	29.92	58.79	16.60	17.07	62.83	56.55	46.90	64.24	54.77	31.94
Movement LOS	E	C	C	E	B	B	E	E	D	E	D	C
d_A, Approach Delay [s/veh]	32.19			31.28			58.07			44.58		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	38.32											
Intersection LOS	D											
Intersection V/C	0.661											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.521	3.567	3.059	3.598
Crosswalk LOS	D	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	677	554	554
d_b, Bicycle Delay [s]	33.99	28.45	33.99	33.99
I_b,int, Bicycle LOS Score for Intersection	2.293	2.681	2.334	2.571
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	3.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	



**Volumes**

Name						
Base Volume Input [veh/h]	1569	13	48	1343	9	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	116	0	0	52	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	3	0	0	0	13
Total Hourly Volume [veh/h]	1685	10	48	1395	9	38
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	434	3	12	360	2	10
Total Analysis Volume [veh/h]	1737	10	49	1438	9	39
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	39	0	9	48	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	3	74	3	3
g / C, Green / Cycle	0.78	0.78	0.04	0.87	0.04	0.04
(v / s)_i Volume / Saturation Flow Rate	0.34	0.01	0.01	0.28	0.00	0.02
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4017	1253	146	4476	75	67
d1, Uniform Delay [s]	3.21	2.15	39.62	1.08	39.30	40.07
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.01	1.33	0.19	0.72	7.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.01	0.33	0.32	0.12	0.59
d, Delay for Lane Group [s/veh]	3.55	2.16	40.95	1.27	40.01	48.01
Lane Group LOS	A	A	D	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.40	0.02	0.52	0.28	0.19	0.94
50th-Percentile Queue Length [ft/ln]	35.12	0.47	12.96	6.88	4.84	23.43
95th-Percentile Queue Length [veh/ln]	2.53	0.03	0.93	0.50	0.35	1.69
95th-Percentile Queue Length [ft/ln]	63.21	0.84	23.32	12.38	8.72	42.18

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.55	2.16	40.95	1.27	40.01	48.01
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	3.54		2.58		46.51	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.73					
Intersection LOS	A					
Intersection V/C	0.374					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	33.99	33.99
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.123	2.178
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	823	1035	776
d_b, Bicycle Delay [s]	14.72	9.90	15.92
I_b,int, Bicycle LOS Score for Intersection	2.522	2.377	1.560
Bicycle LOS	B	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	163	1298	43	104	1127	97	155	135	124	99	118	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	52	0	0	0	0	0	0	0	116
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	24	0	0	31	0	0	54
Total Hourly Volume [veh/h]	163	1298	32	156	1127	73	155	135	93	99	118	160
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	328	8	39	285	18	39	34	23	25	30	40
Total Analysis Volume [veh/h]	165	1311	32	158	1138	74	157	136	94	100	119	162
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	31	0	9	30	0	14	40	0	10	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	48	48	5	47	47	10	15	15	6	11	11
g / C, Green / Cycle	0.07	0.53	0.53	0.06	0.52	0.52	0.11	0.17	0.17	0.07	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.02	0.04	0.22	0.22	0.09	0.04	0.06	0.06	0.03	0.10
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1841	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	237	2754	859	199	1885	959	193	602	269	122	461	206
d1, Uniform Delay [s]	41.13	13.23	10.07	42.03	13.30	13.30	39.42	32.55	33.26	41.50	35.49	38.15
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.63	0.59	0.08	7.07	0.71	1.39	8.09	0.19	0.78	12.40	0.29	6.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.69	0.48	0.04	0.80	0.43	0.43	0.81	0.23	0.35	0.82	0.26	0.79
d, Delay for Lane Group [s/veh]	44.77	13.82	10.16	49.09	14.01	14.69	47.51	32.74	34.04	53.90	35.78	44.66
Lane Group LOS	D	B	B	D	B	B	D	C	C	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.89	5.30	0.31	1.91	4.87	5.13	3.78	1.29	1.85	2.59	1.19	3.79
50th-Percentile Queue Length [ft/ln]	47.28	132.40	7.66	47.76	121.65	128.37	94.60	32.17	46.34	64.68	29.63	94.67
95th-Percentile Queue Length [veh/ln]	3.40	9.07	0.55	3.44	8.48	8.85	6.81	2.32	3.34	4.66	2.13	6.82
95th-Percentile Queue Length [ft/ln]	85.10	226.76	13.79	85.97	212.10	221.28	170.28	57.91	83.42	116.42	53.34	170.41



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.77	13.82	10.16	49.09	14.21	14.69	47.51	32.74	34.04	53.90	35.78	44.66
Movement LOS	D	B	B	D	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	17.13			18.26			39.05			44.31		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.72											
Intersection LOS	C											
Intersection V/C	0.485											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.179	3.136	2.629	2.657
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	599	577	799	710
d_b, Bicycle Delay [s]	22.09	22.80	16.24	18.73
I_b,int, Bicycle LOS Score for Intersection	2.395	2.326	1.904	1.918
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.620

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	6	25	7	9	11	360	6	9	305	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	59	0	33	0	0	0	0	33	26	15	73	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	9	39	25	7	9	11	393	32	24	378	17
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	10	7	2	2	3	102	8	6	98	4
Total Analysis Volume [veh/h]	62	9	41	26	7	9	11	409	33	25	393	18
Pedestrian Volume [ped/h]	0			0			0			0		

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**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	597	569	730	724
Degree of Utilization, x	0.19	0.07	0.62	0.60

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.68	0.24	4.35	4.08
95th-Percentile Queue Length [ft]	17.12	5.96	108.72	101.88
Approach Delay [s/veh]	10.41	9.83	15.62	15.19
Approach LOS	B	A	C	C
Intersection Delay [s/veh]	14.65			
Intersection LOS	B			

**Intersection Level Of Service Report**  
**Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	83.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.201

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	17	17	0	7	0	0	47	18	7	47	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	286	83	17	229	10	8	272	180	46	242	29
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	74	21	4	59	3	2	70	47	12	63	8
Total Analysis Volume [veh/h]	144	296	86	18	237	10	8	282	186	48	251	30
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	526	399	476	416
Degree of Utilization, x	1.20	0.66	1.06	0.79

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	20.58	4.64	15.21	6.96
95th-Percentile Queue Length [ft]	514.52	116.02	380.16	173.93
Approach Delay [s/veh]	136.92	28.12	88.45	37.58
Approach LOS	F	D	F	E
Intersection Delay [s/veh]	83.92			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	45.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	352	154	59	326	40	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	7	122	17	17	49
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	359	161	181	343	57	95
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	43	49	92	15	26
Total Analysis Volume [veh/h]	387	173	195	370	61	102
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.19	0.00	0.41	0.17
d_M, Delay for Movement [s/veh]	0.00	0.00	9.36	0.00	45.25	27.25
Movement LOS	A	A	A	A	E	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.70	0.70	3.36	3.36
95th-Percentile Queue Length [ft/ln]	0.00	0.00	17.58	17.58	84.06	84.06
d_A, Approach Delay [s/veh]	0.00		3.23		33.99	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	5.72					
Intersection LOS	E					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	19.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.149

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	11	8	11	13	16	21	16	269	13	13	249	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	0	0	0	0	0	0	50	15	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	8	11	13	16	21	16	319	28	13	271	22
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	2	3	3	4	6	4	85	7	3	72	6
Total Analysis Volume [veh/h]	46	8	12	14	17	22	17	338	30	14	287	23
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.15	0.02	0.02	0.04	0.05	0.03	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	19.05	17.89	12.58	17.27	16.70	10.99	7.89	0.00	0.00	8.03	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.69	0.69	0.69	0.42	0.42	0.42	0.04	0.04	0.04	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	17.20	17.20	17.20	10.38	10.38	10.38	1.02	1.02	1.02	0.88	0.88	0.88
d_A, Approach Delay [s/veh]	17.74			14.48			0.35			0.35		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	2.64											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.169

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	13	8	10	210	93	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	58	0	0	138	56	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	8	10	348	149	33
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	2	3	97	41	9
Total Analysis Volume [veh/h]	79	9	11	387	166	37
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.17	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.32	10.78	7.63	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.65	0.65	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	16.23	16.23	0.60	0.60	0.00	0.00
d_A, Approach Delay [s/veh]	13.96		0.21		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.90					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.688

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	59	0	0	0	214	0	0	87	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	31	10	97	50	15	29	394	20	8	179	78
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	25	13	4	8	103	5	2	47	20
Total Analysis Volume [veh/h]	14	32	10	102	52	16	30	413	21	8	187	82
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	590	607	644	742	621	710
Degree of Utilization, x	0.09	0.28	0.69	0.03	0.31	0.12

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.31	1.14	5.44	0.09	1.34	0.39
95th-Percentile Queue Length [ft]	7.83	28.61	135.93	2.18	33.51	9.75
Approach Delay [s/veh]	9.75	11.23	19.15		10.33	
Approach LOS	A	B	C		B	
Intersection Delay [s/veh]	14.69					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	41.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.884

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+   →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	78	34	0	0	14	0	0	0	0	36	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	159	0	0	0	0	0	142
Total Hourly Volume [veh/h]	408	1382	0	0	1178	478	0	0	0	382	5	424
Peak Hour Factor	0.9320	0.9320	1.0000	1.0000	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	371	0	0	316	128	0	0	0	102	1	114
Total Analysis Volume [veh/h]	438	1483	0	0	1264	513	0	0	0	410	5	455
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	18	44	0	0	26	0	0	0	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	65	65	65	65		65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	14	40	22	22		17	17
g / C, Green / Cycle	0.22	0.62	0.34	0.34		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.27	0.43	0.26	0.34		0.26	0.28
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1702	1530
c, Capacity [veh/h]	350	2110	1657	517		446	401
d1, Uniform Delay [s]	25.58	8.51	19.28	21.53		24.07	24.09
k, delay calibration	0.15	0.50	0.50	0.50		0.13	0.16
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	119.88	1.99	3.39	37.72		21.33	43.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.25	0.70	0.76	0.99		1.00	1.06
d, Delay for Lane Group [s/veh]	145.46	10.50	22.67	59.25		45.40	67.84
Lane Group LOS	F	B	C	E		D	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	16.72	5.91	5.68	12.43		8.94	10.56
50th-Percentile Queue Length [ft/ln]	417.93	147.72	142.02	310.84		223.52	263.94
95th-Percentile Queue Length [veh/ln]	26.11	9.90	9.59	18.22		13.84	16.42
95th-Percentile Queue Length [ft/ln]	652.65	247.38	239.74	455.41		346.12	410.54

**Movement, Approach, & Intersection Results**

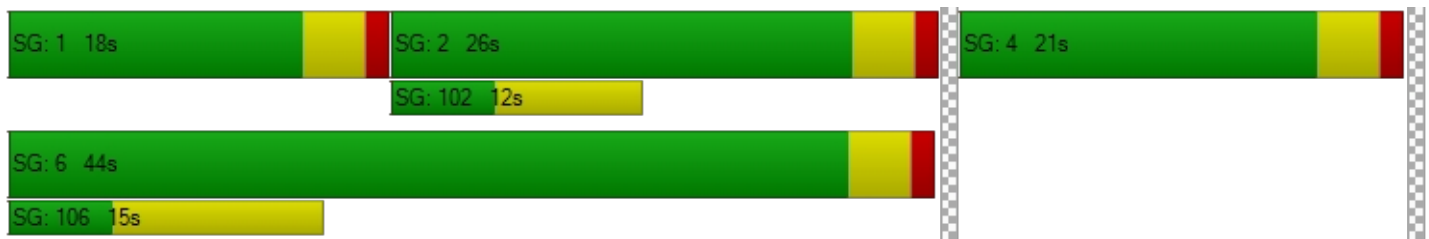
d_M, Delay for Movement [s/veh]	145.46	10.50	0.00	0.00	22.67	59.25	0.00	0.00	0.00	45.40	45.40	66.81
Movement LOS	F	B			C	E				D	D	E
d_A, Approach Delay [s/veh]	41.27				33.23		0.00				56.38	
Approach LOS	D				C		A				E	
d_I, Intersection Delay [s/veh]	41.02											
Intersection LOS	D											
Intersection V/C	0.884											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		24.19		24.19	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.243		2.456	
Crosswalk LOS	F		F		B		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1228		675		0		522	
d_b, Bicycle Delay [s]	4.85		14.29		32.57		17.79	
I_b,int, Bicycle LOS Score for Intersection	3.144		2.624		4.132		3.229	
Bicycle LOS	C		B		D		C	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1162	352	397	1083	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	112	85	0	50	0	0	0	32	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	109	0	0	0	0	0	67	0	0	0
Total Hourly Volume [veh/h]	0	1274	328	397	1133	0	582	2	202	0	0	0
Peak Hour Factor	1.0000	0.9660	0.9660	0.9660	0.9660	1.0000	0.9660	0.9660	0.9660	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	330	85	103	293	0	151	1	52	0	0	0
Total Analysis Volume [veh/h]	0	1319	340	411	1173	0	602	2	209	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	22	0	22	44	0	0	21	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	65	65	65	65	65	65	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	18	18	18	40	17	17	
g / C, Green / Cycle	0.28	0.28	0.28	0.62	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.27	0.22	0.25	0.34	0.25	0.25	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1616	
c, Capacity [veh/h]	1359	424	449	2110	424	423	
d1, Uniform Delay [s]	23.34	21.93	22.86	7.34	23.65	23.85	
k, delay calibration	0.50	0.50	0.12	0.50	0.11	0.12	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	18.34	14.74	8.69	1.06	11.58	15.97	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.97	0.80	0.92	0.56	0.95	0.97	
d, Delay for Lane Group [s/veh]	41.68	36.67	31.55	8.40	35.23	39.83	
Lane Group LOS	D	D	C	A	D	D	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	8.44	6.19	6.70	3.94	6.96	7.66	
50th-Percentile Queue Length [ft/ln]	211.05	154.86	167.51	98.61	174.01	191.43	
95th-Percentile Queue Length [veh/ln]	13.21	10.28	10.95	7.10	11.29	12.20	
95th-Percentile Queue Length [ft/ln]	330.18	256.91	273.63	177.50	282.18	304.88	

**Movement, Approach, & Intersection Results**

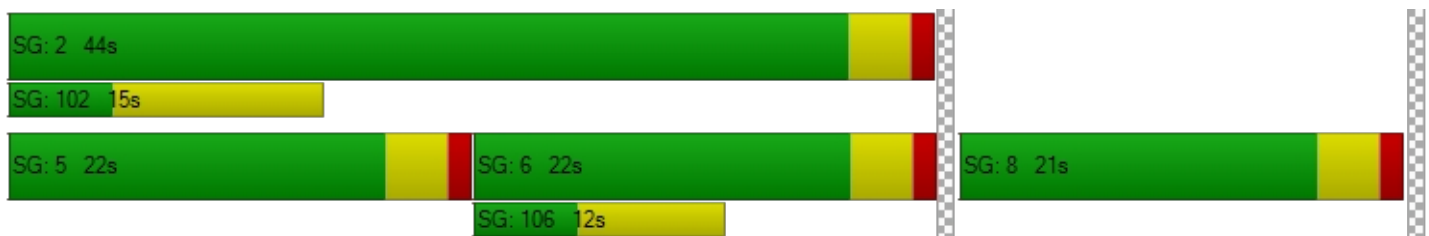
d_M, Delay for Movement [s/veh]	0.00	41.68	36.67	31.55	8.40	0.00	36.74	39.83	39.83	0.00	0.00	0.00
Movement LOS		D	D	C	A		D	D	D			
d_A, Approach Delay [s/veh]		40.65		14.41			37.55			0.00		
Approach LOS		D		B			D			A		
d_I, Intersection Delay [s/veh]	29.78											
Intersection LOS	C											
Intersection V/C	0.777											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	24.19	24.19
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.307	2.120
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	553	1228	522	0
d_b, Bicycle Delay [s]	17.06	4.85	17.79	32.57
I_b,int, Bicycle LOS Score for Intersection	2.532	2.866	3.012	4.132
Bicycle LOS	B	C	C	D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	1	1316	2	39	1056	233	177	4	16	1	2	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	196	0	0	82	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	58	0	0	4	0	0	30
Total Hourly Volume [veh/h]	1	1512	1	39	1138	175	177	4	12	1	2	88
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	387	0	10	291	45	45	1	3	0	1	22
Total Analysis Volume [veh/h]	1	1546	1	40	1164	179	181	4	12	1	2	90
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	30	0	9	30	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	37	37	43	39	39	14	14	14
g / C, Green / Cycle	0.67	0.57	0.57	0.67	0.61	0.61	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.00	0.43	0.43	0.08	0.34	0.12	0.14	0.01	0.06
s, saturation flow rate [veh/h]	546	1800	1800	478	3427	1530	1325	1590	1514
c, Capacity [veh/h]	409	991	991	354	2018	901	292	358	397
d1, Uniform Delay [s]	5.51	11.51	11.51	8.52	8.32	6.22	24.11	19.71	20.76
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	6.09	6.09	0.65	1.21	0.49	2.14	0.05	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.00	0.78	0.78	0.11	0.58	0.20	0.62	0.04	0.23
d, Delay for Lane Group [s/veh]	5.51	17.60	17.60	9.16	9.53	6.72	26.25	19.76	21.06
Lane Group LOS	A	B	B	A	A	A	C	B	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.00	8.35	8.34	0.19	4.06	0.98	2.69	0.19	1.16
50th-Percentile Queue Length [ft/ln]	0.08	208.63	208.62	4.76	101.61	24.52	67.28	4.74	29.08
95th-Percentile Queue Length [veh/ln]	0.01	13.08	13.08	0.34	7.32	1.77	4.84	0.34	2.09
95th-Percentile Queue Length [ft/ln]	0.15	327.06	327.06	8.57	182.89	44.13	121.11	8.53	52.35

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	5.51	17.60	17.60	9.16	9.53	6.72	26.25	19.76	19.76	21.06	21.06	21.06
Movement LOS	A	B	B	A	A	A	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	17.59			9.16			25.72			21.06		
Approach LOS	B			A			C			C		
d_I, Intersection Delay [s/veh]	14.57											
Intersection LOS	B											
Intersection V/C	0.576											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	0.00	24.12	24.12
I_p,int, Pedestrian LOS Score for Intersection	2.820	0.000	2.075	1.859
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	677	677
d_b, Bicycle Delay [s]	11.70	11.70	14.22	14.22
I_b,int, Bicycle LOS Score for Intersection	2.838	2.748	1.891	1.763
Bicycle LOS	C	B	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	33.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.686

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	196	0	0	82	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	27	0	0	31	0	0	42
Total Hourly Volume [veh/h]	82	1089	19	144	883	81	273	307	93	25	161	127
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	285	5	38	231	21	71	80	24	7	42	33
Total Analysis Volume [veh/h]	86	1140	20	151	925	85	286	321	97	26	169	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	14	34	0	21	40	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	41	41	10	45	45	17	26	26	3	11	11
g / C, Green / Cycle	0.06	0.43	0.43	0.11	0.47	0.47	0.18	0.27	0.27	0.03	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.05	0.32	0.32	0.09	0.28	0.28	0.18	0.09	0.06	0.02	0.09	0.09
s, saturation flow rate [veh/h]	1619	1800	1789	1619	1800	1747	1619	3427	1530	1619	1800	1548
c, Capacity [veh/h]	104	770	765	171	845	820	290	929	415	44	215	185
d1, Uniform Delay [s]	44.02	23.04	23.04	41.95	18.73	18.73	38.93	27.90	27.00	45.74	40.45	40.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.13	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.23	6.82	6.87	13.39	3.22	3.33	23.54	0.22	0.29	11.65	4.81	7.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.83	0.76	0.76	0.88	0.61	0.61	0.99	0.35	0.23	0.59	0.73	0.78
d, Delay for Lane Group [s/veh]	59.25	29.86	29.91	55.34	21.95	22.06	62.48	28.12	27.28	57.39	45.25	47.75
Lane Group LOS	E	C	C	E	C	C	E	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.42	11.95	11.90	4.09	8.71	8.49	8.43	2.93	1.73	0.75	3.81	3.61
50th-Percentile Queue Length [ft/ln]	60.57	298.86	297.50	102.29	217.71	212.23	210.67	73.17	43.20	18.67	95.19	90.23
95th-Percentile Queue Length [veh/ln]	4.36	17.62	17.56	7.36	13.55	13.27	13.19	5.27	3.11	1.34	6.85	6.50
95th-Percentile Queue Length [ft/ln]	109.02	440.61	438.94	184.12	338.70	331.68	329.68	131.71	77.76	33.60	171.35	162.41



**Movement, Approach, & Intersection Results**

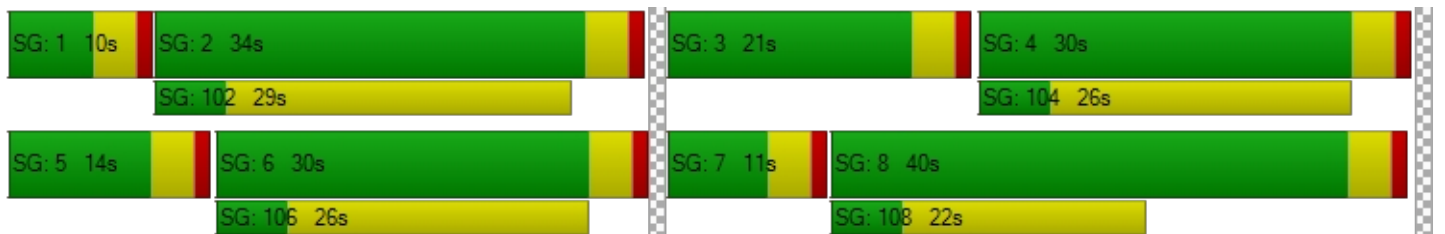
d_M, Delay for Movement [s/veh]	59.25	29.88	29.91	55.34	22.00	22.06	62.48	28.12	27.28	57.39	45.42	47.75
Movement LOS	E	C	C	E	C	C	E	C	C	E	D	D
d_A, Approach Delay [s/veh]	31.91			26.34			41.96			47.32		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.56											
Intersection LOS	C											
Intersection V/C	0.686											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.97	38.97	38.97	38.97
I_p,int, Pedestrian LOS Score for Intersection	2.769	2.949	2.796	2.658
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	631	757	547
d_b, Bicycle Delay [s]	25.09	22.27	18.36	25.09
I_b,int, Bicycle LOS Score for Intersection	2.593	2.540	2.166	1.865
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.628

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	110	927	32	76	759	47	75	135	93	26	112	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	147	0	0	60	22	50	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	17	0	0	23	0	0	14
Total Hourly Volume [veh/h]	110	1074	24	76	819	52	125	135	70	26	112	42
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	296	7	21	225	14	34	37	19	7	31	12
Total Analysis Volume [veh/h]	121	1183	26	84	902	57	138	149	77	29	123	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	18	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	28	28	4	26	26	16	16
g / C, Green / Cycle	0.09	0.46	0.46	0.07	0.44	0.44	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.07	0.34	0.34	0.05	0.27	0.27	0.24	0.12
s, saturation flow rate [veh/h]	1619	1800	1786	1619	1800	1763	1521	1673
c, Capacity [veh/h]	153	836	830	108	786	770	492	519
d1, Uniform Delay [s]	26.65	13.02	13.02	27.62	13.06	13.06	20.96	18.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.75	5.45	5.51	11.12	3.60	3.68	2.20	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.79	0.73	0.73	0.77	0.62	0.62	0.74	0.38
d, Delay for Lane Group [s/veh]	35.41	18.47	18.54	38.74	16.66	16.74	23.16	18.60
Lane Group LOS	D	B	B	D	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.97	6.80	6.77	1.46	5.10	5.01	4.74	2.05
50th-Percentile Queue Length [ft/ln]	49.34	169.99	169.26	36.51	127.59	125.36	118.39	51.14
95th-Percentile Queue Length [veh/ln]	3.55	11.08	11.04	2.63	8.81	8.69	8.30	3.68
95th-Percentile Queue Length [ft/ln]	88.81	276.91	275.94	65.72	220.21	217.17	207.61	92.05

**Movement, Approach, & Intersection Results**

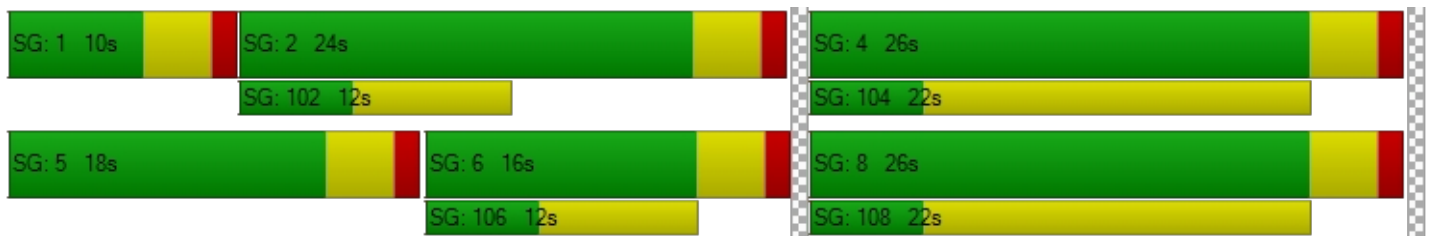
d_M, Delay for Movement [s/veh]	35.41	18.50	18.54	38.74	16.70	16.74	23.16	23.16	23.16	18.60	18.60	18.60
Movement LOS	D	B	B	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	20.04			18.47			23.16			18.60		
Approach LOS	C			B			C			B		
d_I, Intersection Delay [s/veh]	19.77											
Intersection LOS	B											
Intersection V/C	0.628											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.795	2.977	2.072	2.027
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	399	666	732	732
d_b, Bicycle Delay [s]	19.24	13.37	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.663	2.434	2.198	1.909
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	93.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.289

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	47	0	0	0	0	60	147	17	109	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	27	0	0	39	0	0	19
Total Hourly Volume [veh/h]	105	898	28	101	778	80	186	106	116	45	56	57
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	238	7	27	206	21	49	28	31	12	15	15
Total Analysis Volume [veh/h]	111	951	30	107	824	85	197	112	123	48	59	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	0	9	22	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	21	21	5	21	21	22	22	22	22
g / C, Green / Cycle	0.09	0.35	0.35	0.08	0.35	0.35	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.27	0.07	0.26	0.26	2.95	0.08	0.52	0.04
s, saturation flow rate [veh/h]	1619	1800	1781	1619	1800	1742	105	1530	206	1530
c, Capacity [veh/h]	142	632	625	136	625	605	136	560	162	560
d1, Uniform Delay [s]	26.89	17.45	17.45	27.04	17.25	17.25	24.73	13.16	16.04	12.59
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.48	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.07	9.26	9.36	9.73	7.66	7.91	592.82	0.20	18.46	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.78	0.78	0.78	0.79	0.74	0.74	2.27	0.22	0.66	0.11
d, Delay for Lane Group [s/veh]	35.96	26.71	26.81	36.77	24.91	25.15	617.55	13.35	34.50	12.68
Lane Group LOS	D	C	C	D	C	C	F	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.83	7.02	6.96	1.79	6.31	6.14	24.33	1.06	1.71	0.49
50th-Percentile Queue Length [ft/ln]	45.75	175.51	174.08	44.75	157.63	153.55	608.21	26.48	42.67	12.33
95th-Percentile Queue Length [veh/ln]	3.29	11.37	11.29	3.22	10.42	10.21	43.28	1.91	3.07	0.89
95th-Percentile Queue Length [ft/ln]	82.36	284.14	282.27	80.55	260.58	255.16	1082.01	47.67	76.80	22.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	35.96	26.76	26.81	36.77	25.02	25.15	617.55	617.55	13.35	34.50	34.50	12.68
Movement LOS	D	C	C	D	C	C	F	F	B	C	C	B
d_A, Approach Delay [s/veh]	27.70			26.27			445.52			26.66		
Approach LOS	C			C			F			C		
d_I, Intersection Delay [s/veh]	93.77											
Intersection LOS	F											
Intersection V/C	3.289											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.778	3.042	2.221	2.092
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	699	599	732	732
d_b, Bicycle Delay [s]	12.71	14.74	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.468	2.420	2.337	1.867
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	51	941	9	39	767	27	63	23	33	18	21	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	0	0	109	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	7	0	0	8	0	0	4
Total Hourly Volume [veh/h]	51	988	7	39	876	20	63	23	25	18	21	11
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	268	2	11	238	5	17	6	7	5	6	3
Total Analysis Volume [veh/h]	55	1073	8	42	951	22	68	25	27	20	23	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	40	3	39	39	6	6
g / C, Green / Cycle	0.05	0.67	0.67	0.04	0.66	0.66	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.30	0.30	0.03	0.27	0.27	0.07	0.03
s, saturation flow rate [veh/h]	1619	1800	1795	1619	1800	1786	1654	1753
c, Capacity [veh/h]	83	1196	1193	70	1181	1172	248	245
d1, Uniform Delay [s]	28.00	4.84	4.84	28.24	4.87	4.87	26.54	25.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.78	1.24	1.24	8.07	1.07	1.08	1.47	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.66	0.45	0.45	0.60	0.41	0.41	0.48	0.22
d, Delay for Lane Group [s/veh]	36.78	6.08	6.08	36.31	5.94	5.95	28.01	25.99
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.94	2.49	2.49	0.72	2.24	2.23	1.68	0.73
50th-Percentile Queue Length [ft/ln]	23.48	62.30	62.17	18.01	56.09	55.71	42.03	18.20
95th-Percentile Queue Length [veh/ln]	1.69	4.49	4.48	1.30	4.04	4.01	3.03	1.31
95th-Percentile Queue Length [ft/ln]	42.27	112.14	111.91	32.42	100.96	100.28	75.65	32.76

**Movement, Approach, & Intersection Results**

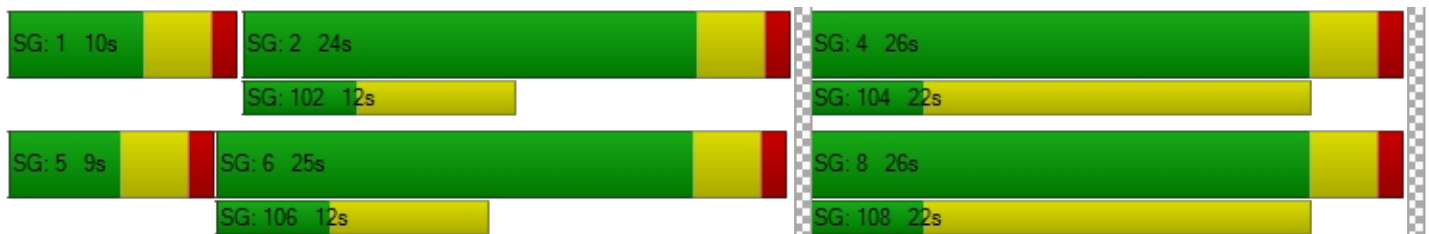
d_M, Delay for Movement [s/veh]	36.78	6.08	6.08	36.31	5.95	5.95	28.01	28.01	28.01	25.99	25.99	25.99
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.57			7.20			28.01			25.99		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.90											
Intersection LOS	A											
Intersection V/C	0.399											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.730			2.812			1.822			1.768		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			666			733			733		
d_b, Bicycle Delay [s]	12.69			13.35			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.498			2.403			1.771			1.657		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	105	845	14	52	766	14	45	21	284	29	10	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	0	93	17	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	8	0	0	71	0	0	4
Total Hourly Volume [veh/h]	105	884	10	52	859	23	52	21	213	29	10	13
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	238	3	14	232	6	14	6	57	8	3	4
Total Analysis Volume [veh/h]	113	954	11	56	927	25	56	23	230	31	11	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	24	0	10	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	31	31	3	29	29	14	14
g / C, Green / Cycle	0.09	0.52	0.52	0.05	0.48	0.48	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.27	0.03	0.27	0.27	0.20	0.05
s, saturation flow rate [veh/h]	1619	1800	1793	1619	1800	1783	1543	1060
c, Capacity [veh/h]	146	924	921	85	857	849	432	341
d1, Uniform Delay [s]	26.77	9.73	9.73	27.96	11.24	11.24	21.98	18.23
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.44	2.11	2.12	8.24	2.62	2.64	2.22	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.77	0.52	0.52	0.66	0.56	0.56	0.72	0.16
d, Delay for Lane Group [s/veh]	35.21	11.85	11.85	36.20	13.86	13.88	24.20	18.46
Lane Group LOS	D	B	B	D	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.84	3.98	3.97	0.95	4.42	4.39	4.09	0.59
50th-Percentile Queue Length [ft/ln]	45.96	99.61	99.28	23.66	110.51	109.63	102.20	14.87
95th-Percentile Queue Length [veh/ln]	3.31	7.17	7.15	1.70	7.87	7.82	7.36	1.07
95th-Percentile Queue Length [ft/ln]	82.73	179.31	178.70	42.58	196.71	195.49	183.96	26.77

**Movement, Approach, & Intersection Results**

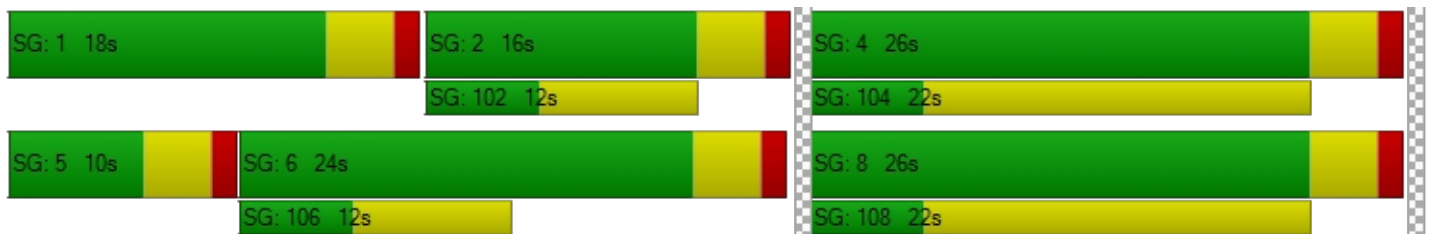
d_M, Delay for Movement [s/veh]	35.21	11.85	11.85	36.20	13.87	13.88	24.20	24.20	24.20	18.46	18.46	18.46
Movement LOS	D	B	B	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	14.30			15.11			24.20			18.46		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	15.98											
Intersection LOS	B											
Intersection V/C	0.536											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.787	2.770	2.058	1.776
Crosswalk LOS	C	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	666	399	732	732
d_b, Bicycle Delay [s]	13.37	19.24	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.452	2.398	2.187	1.659
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	19.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.649

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	822	124	153	826	9	13	7	5	219	9	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	0	93	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	31	0	0	2	0	0	1	0	0	45
Total Hourly Volume [veh/h]	9	861	93	153	919	7	13	7	4	219	9	136
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	241	26	43	257	2	4	2	1	61	3	38
Total Analysis Volume [veh/h]	10	962	104	171	1027	8	15	8	4	245	10	152
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	23	0	11	20	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	24	24	7	31	31	17	17	17
g / C, Green / Cycle	0.01	0.41	0.41	0.12	0.51	0.51	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.01	0.30	0.30	0.11	0.29	0.29	0.12	0.24	0.10
s, saturation flow rate [veh/h]	1619	1800	1739	1619	1800	1795	233	1055	1530
c, Capacity [veh/h]	24	730	705	191	915	913	158	410	424
d1, Uniform Delay [s]	29.37	15.22	15.22	26.17	10.21	10.21	17.71	20.75	17.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.00	6.73	6.96	13.63	2.53	2.54	0.51	1.55	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.74	0.74	0.90	0.57	0.57	0.17	0.62	0.36
d, Delay for Lane Group [s/veh]	40.37	21.95	22.18	39.81	12.74	12.75	18.22	22.30	17.96
Lane Group LOS	D	C	C	D	B	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.21	6.83	6.65	2.99	4.52	4.51	0.27	3.26	1.61
50th-Percentile Queue Length [ft/ln]	5.25	170.74	166.17	74.69	112.88	112.64	6.84	81.61	40.18
95th-Percentile Queue Length [veh/ln]	0.38	11.12	10.87	5.38	8.00	7.99	0.49	5.88	2.89
95th-Percentile Queue Length [ft/ln]	9.46	277.89	271.87	134.45	200.00	199.67	12.31	146.90	72.32

**Movement, Approach, & Intersection Results**

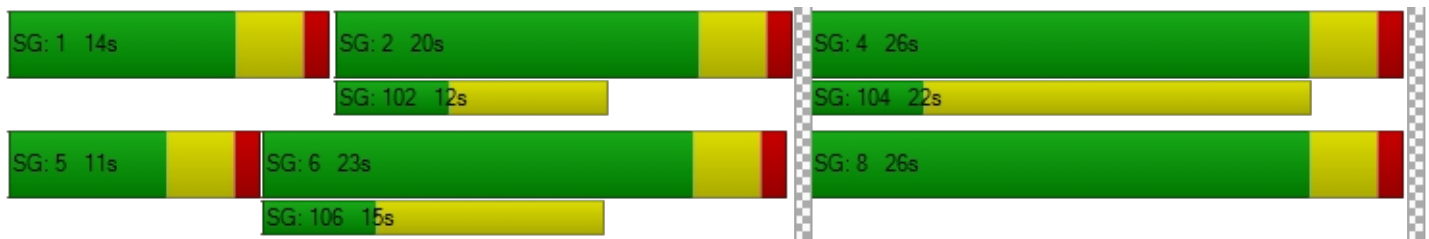
d_M, Delay for Movement [s/veh]	40.37	22.05	22.18	39.81	12.75	12.75	18.22	18.22	18.22	22.30	22.30	17.96
Movement LOS	D	C	C	D	B	B	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	22.23			16.58			18.22			20.68		
Approach LOS	C			B			B			C		
d_I, Intersection Delay [s/veh]	19.45											
Intersection LOS	B											
Intersection V/C	0.649											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.769	1.725	2.234
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	533	732	732
d_b, Bicycle Delay [s]	14.05	16.17	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.473	2.556	1.606	2.305
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	47.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	68	25	0	0	0	0	0	0	29
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	99	0	0	6	0	0	4	0	0	139
Total Hourly Volume [veh/h]	16	349	297	602	493	17	29	50	11	229	84	415
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	96	82	166	136	5	8	14	3	63	23	114
Total Analysis Volume [veh/h]	18	384	327	663	543	19	32	55	12	252	93	457
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	53	29	0	45	21	0	0	9	0	0	27	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	25	25	41	64	64	6	6	22
g / C, Green / Cycle	0.02	0.23	0.23	0.37	0.58	0.58	0.05	0.05	0.20
(v / s)_i Volume / Saturation Flow Rate	0.01	0.11	0.20	0.37	0.15	0.01	0.02	0.04	0.19
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1842	1833
c, Capacity [veh/h]	35	827	369	674	2104	939	90	92	373
d1, Uniform Delay [s]	53.42	36.63	41.05	34.20	11.34	9.75	50.55	51.53	42.97
k, delay calibration	0.11	0.50	0.50	0.45	0.50	0.50	0.11	0.11	0.22
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.93	1.87	25.33	29.24	0.30	0.04	2.34	10.44	17.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.46	0.89	0.98	0.26	0.02	0.35	0.73	0.92
d, Delay for Lane Group [s/veh]	64.35	38.50	66.38	63.44	11.64	9.79	52.89	61.97	60.36
Lane Group LOS	E	D	E	E	B	A	D	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.60	4.66	11.09	22.52	3.25	0.20	0.91	2.08	10.92
50th-Percentile Queue Length [ft/ln]	14.99	116.57	277.20	562.96	81.34	5.02	22.75	52.10	273.00
95th-Percentile Queue Length [veh/ln]	1.08	8.20	16.55	30.30	5.86	0.36	1.64	3.75	16.34
95th-Percentile Queue Length [ft/ln]	26.98	205.11	413.73	757.52	146.42	9.04	40.96	93.78	408.49

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	64.35	38.50	66.38	63.44	11.64	9.79	52.89	61.97	61.97	60.36	60.36	0.00
Movement LOS	E	D	E	E	B	A	D	E	E	E	E	
d_A, Approach Delay [s/veh]	51.64			39.64			59.04			60.36		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	47.07											
Intersection LOS	D											
Intersection V/C	0.793											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	454			309			91			418		
d_b, Bicycle Delay [s]	32.85			39.32			50.12			34.41		
I_b,int, Bicycle LOS Score for Intersection	2.243			2.575			1.730			2.129		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.545

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		



**Volumes**

Name												
Base Volume Input [veh/h]	13	14	7	181	11	293	339	499	9	8	556	266
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	68	0	0	29	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	73	0	0	2	0	0	67
Total Hourly Volume [veh/h]	13	14	5	181	11	220	339	567	7	8	585	199
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	1	48	3	58	90	151	2	2	155	53
Total Analysis Volume [veh/h]	14	15	5	192	12	234	360	603	7	9	622	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	21	30	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	16	29	29	1	14	14
g / C, Green / Cycle	0.40	0.40	0.40	0.22	0.42	0.42	0.01	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.14	0.20	0.17	0.00	0.00	0.17	0.13
s, saturation flow rate [veh/h]	1051	1173	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	493	569	647	407	1502	671	24	737	329
d1, Uniform Delay [s]	13.63	16.10	14.74	26.31	14.39	12.04	34.31	26.85	25.58
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.27	1.75	1.57	6.54	0.17	0.01	9.51	2.75	2.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.07	0.36	0.36	0.89	0.40	0.01	0.38	0.84	0.64
d, Delay for Lane Group [s/veh]	13.90	17.86	16.31	32.85	14.56	12.05	43.83	29.61	27.67
Lane Group LOS	B	B	B	C	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.34	2.57	2.69	6.23	3.10	0.06	0.21	5.02	3.25
50th-Percentile Queue Length [ft/ln]	8.53	64.31	67.16	155.72	77.62	1.52	5.27	125.38	81.24
95th-Percentile Queue Length [veh/ln]	0.61	4.63	4.84	10.32	5.59	0.11	0.38	8.69	5.85
95th-Percentile Queue Length [ft/ln]	15.36	115.75	120.88	258.05	139.71	2.73	9.49	217.20	146.24

**Movement, Approach, & Intersection Results**

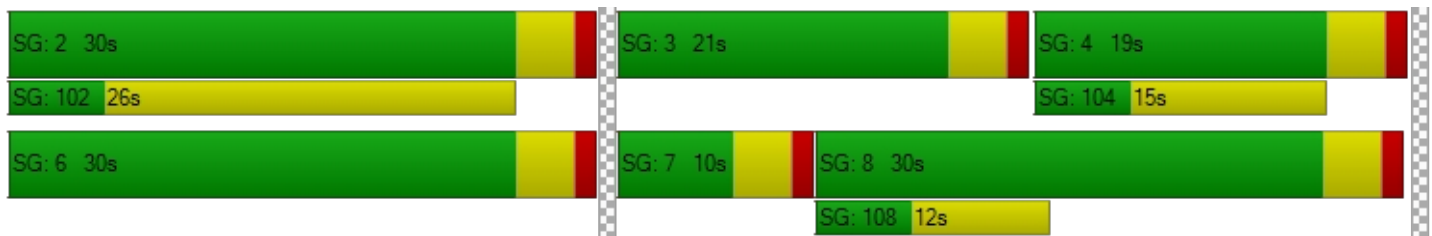
d_M, Delay for Movement [s/veh]	13.90	13.90	13.90	17.86	17.86	16.31	32.85	14.56	12.05	43.83	29.61	27.67
Movement LOS	B	B	B	B	B	B	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	13.90			17.03			21.33			29.27		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	23.32											
Intersection LOS	C											
Intersection V/C	0.545											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.61	26.61	26.61	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.739	2.411	2.776	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	742	742	742	428
d_b, Bicycle Delay [s]	13.86	13.86	13.86	21.64
I_b,int, Bicycle LOS Score for Intersection	1.619	2.403	2.362	2.310
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	36.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.718

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	68	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	1	0	0	65	0	0	13
Total Hourly Volume [veh/h]	58	814	61	9	759	3	7	46	196	282	69	39
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	206	15	2	192	1	2	12	50	71	17	10
Total Analysis Volume [veh/h]	59	823	62	9	767	3	7	47	198	285	70	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	46	0	10	47	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	54	54	1	51	51	15	15	19	19
g / C, Green / Cycle	0.04	0.52	0.52	0.01	0.49	0.49	0.14	0.14	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.43	0.04	0.00	0.40	0.00	0.03	0.12	0.16	0.06
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	1810	1787
c, Capacity [veh/h]	78	979	832	22	920	782	270	231	321	317
d1, Uniform Delay [s]	49.74	21.80	12.85	51.55	23.47	14.02	39.73	43.99	42.21	37.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.12	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.63	8.67	0.17	11.79	8.80	0.01	0.36	8.84	9.12	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.84	0.07	0.41	0.83	0.00	0.20	0.86	0.89	0.34
d, Delay for Lane Group [s/veh]	63.37	30.48	13.03	63.34	32.27	14.03	40.09	52.83	51.33	38.51
Lane Group LOS	E	C	B	E	C	B	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.82	18.67	0.76	0.31	17.87	0.04	1.26	5.56	7.96	2.51
50th-Percentile Queue Length [ft/ln]	45.60	466.73	19.11	7.67	446.64	0.96	31.43	139.05	199.04	62.73
95th-Percentile Queue Length [veh/ln]	3.28	25.76	1.38	0.55	24.80	0.07	2.26	9.43	12.59	4.52
95th-Percentile Queue Length [ft/ln]	82.08	643.88	34.41	13.80	619.94	1.73	56.58	235.74	314.73	112.92



**Movement, Approach, & Intersection Results**

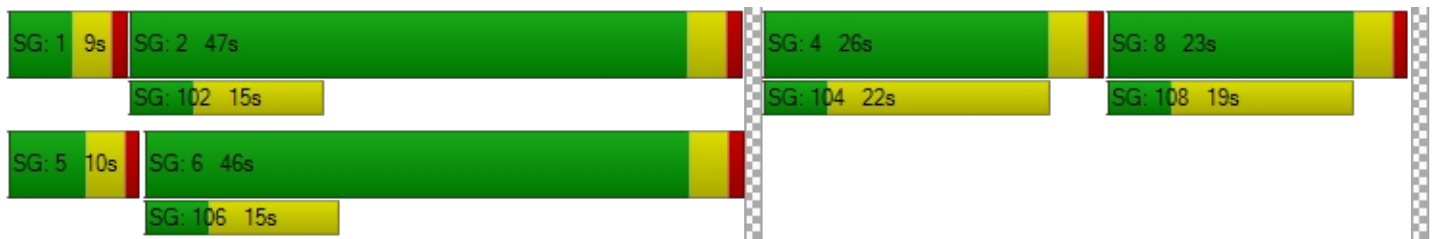
d_M, Delay for Movement [s/veh]	63.37	30.48	13.03	63.34	32.27	14.03	40.09	40.09	52.83	51.33	38.51	38.51
Movement LOS	E	C	B	E	C	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	31.39			32.55			50.10			47.78		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	36.49											
Intersection LOS	D											
Intersection V/C	0.718											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.92	43.92	43.92	43.92
I_p,int, Pedestrian LOS Score for Intersection	2.726	2.634	2.188	2.145
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	819	362	419
d_b, Bicycle Delay [s]	18.93	18.33	35.25	32.83
I_b,int, Bicycle LOS Score for Intersection	3.152	2.847	2.083	2.231
Bicycle LOS	C	C	B	B

**Sequence**





Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.404

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	21	771	203	97	1043	0	0	12	69	193	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	68	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	17	0	0	11
Total Hourly Volume [veh/h]	21	800	152	97	1111	0	0	12	52	193	5	34
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	206	39	25	287	0	0	3	13	50	1	9
Total Analysis Volume [veh/h]	22	826	157	100	1147	0	0	12	54	199	5	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	23	23	12	25	0	0	9	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	39	39	5	42	42	4	4	6	6	6
g / C, Green / Cycle	0.03	0.56	0.56	0.07	0.60	0.60	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.23	0.10	0.06	0.30	0.30	0.01	0.03	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	49	2006	896	133	1143	1143	101	86	164	164	146
d1, Uniform Delay [s]	33.68	9.03	7.72	31.90	7.99	7.99	31.68	32.57	30.78	30.78	29.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.46	0.63	0.43	8.14	1.58	1.58	0.52	7.28	3.81	3.79	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.41	0.18	0.75	0.50	0.50	0.12	0.63	0.62	0.62	0.24
d, Delay for Lane Group [s/veh]	40.14	9.66	8.15	40.05	9.57	9.57	32.20	39.85	34.59	34.57	30.53
Lane Group LOS	D	A	A	D	A	A	C	D	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.45	3.25	1.11	1.91	4.47	4.47	0.20	1.04	1.78	1.78	0.57
50th-Percentile Queue Length [ft/ln]	11.14	81.26	27.64	47.71	111.83	111.83	5.06	26.10	44.42	44.48	14.13
95th-Percentile Queue Length [veh/ln]	0.80	5.85	1.99	3.44	7.94	7.94	0.36	1.88	3.20	3.20	1.02
95th-Percentile Queue Length [ft/ln]	20.05	146.28	49.75	85.89	198.54	198.54	9.12	46.99	79.96	80.07	25.43

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	40.14	9.66	8.15	40.05	9.57	9.57	32.20	32.20	39.85	34.58	34.57	30.53
Movement LOS	D	A	A	D	A	A	C	C	D	C	C	C
d_A, Approach Delay [s/veh]	10.09			12.01			38.46			33.99		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	13.99											
Intersection LOS	B											
Intersection V/C	0.404											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.702			0.000			2.275		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	542			599			143			627		
d_b, Bicycle Delay [s]	18.64			17.21			30.24			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.431			2.588			1.697			1.972		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.499

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	202	284	0	0	1131	170	0	0	0	71	0	708
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	68	0	0	0	0	0	0	29
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	43	0	0	0	0	0	184
Total Hourly Volume [veh/h]	202	284	0	0	1199	127	0	0	0	71	0	553
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	1.0000	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	73	0	0	310	33	0	0	0	18	0	143
Total Analysis Volume [veh/h]	209	294	0	0	1240	131	0	0	0	73	0	572
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	9	48	36		4
g / C, Green / Cycle	0.14	0.81	0.60		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.34		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	259	2917	2158		110
d1, Uniform Delay [s]	24.97	1.23	7.45		27.65
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.88	0.07	1.12		6.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.81	0.10	0.57		0.66
d, Delay for Lane Group [s/veh]	30.85	1.30	8.57		34.35
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	3.12	0.08	3.94		1.18
50th-Percentile Queue Length [ft/ln]	78.10	2.04	98.48		29.47
95th-Percentile Queue Length [veh/ln]	5.62	0.15	7.09		2.12
95th-Percentile Queue Length [ft/ln]	140.58	3.67	177.26		53.05

**Movement, Approach, & Intersection Results**

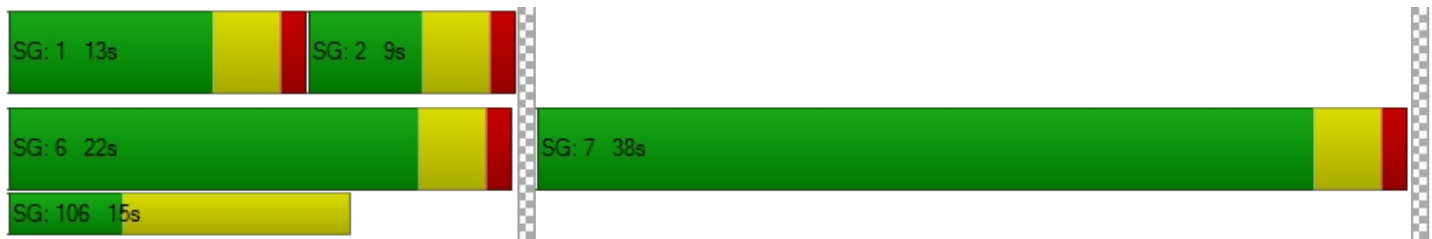
d_M, Delay for Movement [s/veh]	30.85	1.30	0.00	0.00	8.57	0.00	0.00	0.00	0.00	0.00	34.35	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	13.58				8.57				0.00		34.35		
Approach LOS	B				A				A		C		
d_I, Intersection Delay [s/veh]	10.99												
Intersection LOS	B												
Intersection V/C	0.499												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.945	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	1.975		2.583		4.132		1.560	
Bicycle LOS	A		B		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	22.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.694

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↔			↔↑↑			↔↔↔					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	456	63	512	574	0	120	0	752	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	68	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	0	0	0	188	0	0	0
Total Hourly Volume [veh/h]	0	456	47	580	574	0	120	0	564	0	0	0
Peak Hour Factor	1.0000	0.9280	0.9280	0.9280	0.9280	1.0000	0.9280	1.0000	0.9280	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	13	156	155	0	32	0	152	0	0	0
Total Analysis Volume [veh/h]	0	491	51	625	619	0	129	0	608	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	26	41	0	19	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	11	22	38	15	15	
g / C, Green / Cycle	0.19	0.37	0.62	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.35	0.17	0.07	0.21	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	691	663	2256	440	696	
d1, Uniform Delay [s]	22.78	18.46	5.14	18.54	21.87	
k, delay calibration	0.50	0.23	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	6.11	13.35	0.30	0.37	3.64	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.71	0.94	0.27	0.29	0.87	
d, Delay for Lane Group [s/veh]	28.89	31.81	5.44	18.91	25.52	
Lane Group LOS	C	C	A	B	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	3.60	9.80	1.36	1.40	4.12	
50th-Percentile Queue Length [ft/ln]	90.04	244.97	33.99	34.99	102.97	
95th-Percentile Queue Length [veh/ln]	6.48	14.93	2.45	2.52	7.41	
95th-Percentile Queue Length [ft/ln]	162.07	373.31	61.17	62.99	185.35	

**Movement, Approach, & Intersection Results**

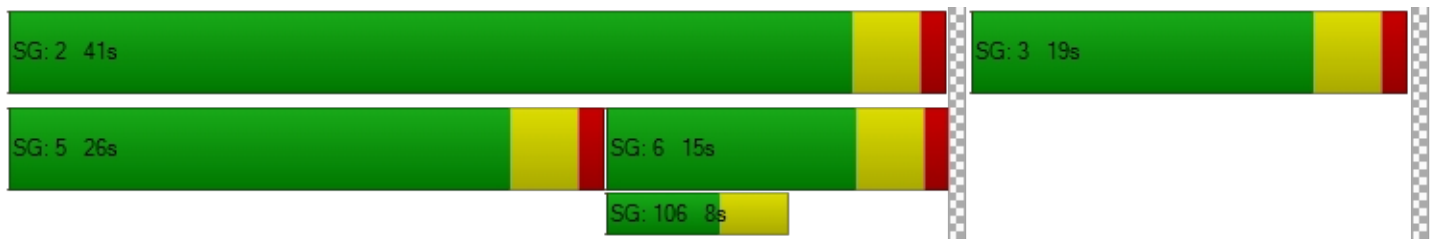
d_M, Delay for Movement [s/veh]	0.00	28.89	0.00	31.81	5.44	0.00	18.91	0.00	25.52	0.00	0.00	0.00
Movement LOS		C		C	A		B		C			
d_A, Approach Delay [s/veh]	28.89			18.69			24.36			0.00		
Approach LOS	C			B			C			A		
d_I, Intersection Delay [s/veh]	22.41											
Intersection LOS	C											
Intersection V/C	0.694											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.014		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	366			1232			499			0		
d_b, Bicycle Delay [s]	20.05			4.43			16.91			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.965			2.586			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	16	0	0	22	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	75	0	7	33	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	0	7	55	0	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	2	14	0	4
Total Analysis Volume [veh/h]	96	0	7	58	0	18
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.42	0.00	9.47	8.82
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.35	0.35	1.43	1.43
d_A, Approach Delay [s/veh]	0.00		0.80		8.82	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.18					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.089

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	58	0	7	26	0	0	0	0	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	74	0	7	48	0	0	0	0	0	0	17
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	0	2	13	0	0	0	0	0	0	4
Total Analysis Volume [veh/h]	0	78	0	7	51	0	0	0	0	0	0	17
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.09	0.00	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.27	9.50	8.70	9.31	9.34	8.64	7.25	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.29	0.21	0.21	0.21	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.30	7.30	7.30	5.23	5.23	5.23	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.50			9.34			2.42			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.39											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type: Two-way stop  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 9.4  
 Level Of Service: A  
 Volume to Capacity (v/c): 0.013

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	50	26	4	22	0	0	0	0	11	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	66	26	4	44	0	0	0	0	11	0	9
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	7	1	12	0	0	0	0	3	0	2
Total Analysis Volume [veh/h]	0	69	26	4	46	0	0	0	0	11	0	9
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	7.29	0.00	0.00	7.39	0.00	0.00	9.36	9.84	8.50	9.39	9.85	8.75
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.20	0.20	0.20	0.00	0.00	0.00	1.71	1.71	1.71
d_A, Approach Delay [s/veh]	0.00			0.59			9.23			9.10		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.28											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	434	423	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	74	33	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	508	456	0	0	17
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	134	120	0	0	4
Total Analysis Volume [veh/h]	7	535	480	0	0	17
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	8.32	0.00	0.00	0.00	0.00	11.28
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.09
95th-Percentile Queue Length [ft/ln]	0.48	0.48	0.00	0.00	0.00	2.22
d_A, Approach Delay [s/veh]	0.11		0.00		11.28	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.056

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	434	0	0	423	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	0	15	37	0	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	456	0	15	460	0	33
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	120	0	4	121	0	8
Total Analysis Volume [veh/h]	480	0	15	484	0	33
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	8.34	0.00	0.00	11.46
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.00	0.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.04	1.04	0.00	4.43
d_A, Approach Delay [s/veh]	0.00		0.25		11.46	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.50					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	6.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.321

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑ →			← ↑ →			↑			↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	434	0	0	423	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	21	21	0	51	4	8	0	35	52	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	1	0	0	9	0	0	0
Total Hourly Volume [veh/h]	14	455	16	0	474	3	8	0	26	52	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	120	4	0	125	1	2	0	7	14	0	0
Total Analysis Volume [veh/h]	15	479	17	0	499	3	8	0	27	55	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	28	0	9	27	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	45	0	44	3	3
g / C, Green / Cycle	0.02	0.75	0.00	0.73	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.01	0.28	0.00	0.28	0.02	0.03
s, saturation flow rate [veh/h]	1714	1789	1714	1798	1736	1681
c, Capacity [veh/h]	35	1335	3	1309	164	207
d1, Uniform Delay [s]	29.11	2.68	0.00	3.09	27.61	27.92
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.93	0.79	0.00	0.85	0.64	0.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.37	0.00	0.38	0.21	0.27
d, Delay for Lane Group [s/veh]	37.04	3.47	0.00	3.95	28.25	28.60
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.27	0.73	0.00	1.44	0.49	0.77
50th-Percentile Queue Length [ft/ln]	6.78	18.31	0.00	36.11	12.30	19.37
95th-Percentile Queue Length [veh/ln]	0.49	1.32	0.00	2.60	0.89	1.39
95th-Percentile Queue Length [ft/ln]	12.21	32.96	0.00	65.00	22.15	34.87

**Movement, Approach, & Intersection Results**

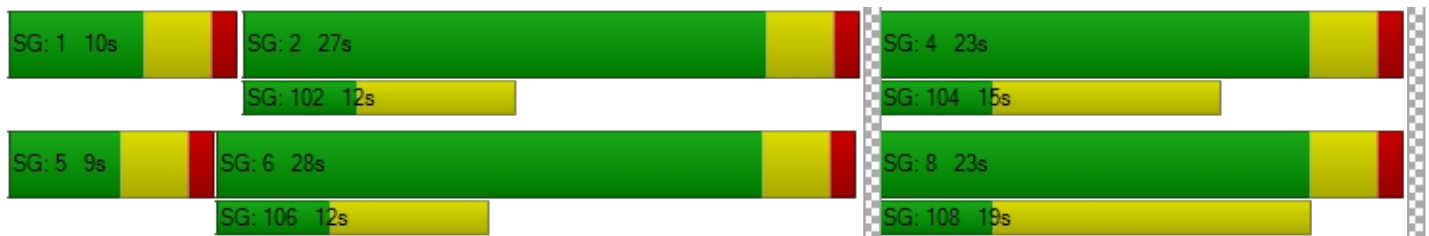
d_M, Delay for Movement [s/veh]	37.04	3.47	3.47	0.00	3.95	3.95	28.25	28.25	28.25	28.60	28.60	28.60
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.46			3.95			28.25			28.60		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.18											
Intersection LOS	A											
Intersection V/C	0.321											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.545			2.255			1.739			1.733		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			766			632			632		
d_b, Bicycle Delay [s]	10.83			11.44			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.411			2.390			1.632			1.650		
Bicycle LOS	B			B			A			A		

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	220	101	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	17	7	122	49	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	17	7	342	150	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	2	90	39	2
Total Analysis Volume [veh/h]	18	18	7	360	158	7
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.02	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.44	9.38	7.54	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.42	4.42	0.37	0.37	0.00	0.00
d_A, Approach Delay [s/veh]	10.91		0.14		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.78					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	30	42	42	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	9	7	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	34	51	49	17	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	13	13	4	0
Total Analysis Volume [veh/h]	0	36	54	52	18	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	9.15	8.74
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	1.56	1.56
d_A, Approach Delay [s/veh]	0.00		0.00		9.15	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.03					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	19	0	0	21	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	7	0	35	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	7	0	56	17	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	2	0	15	4	0
Total Analysis Volume [veh/h]	35	7	0	59	18	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.28	0.00	9.05	8.55
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	1.52	1.52
d_A, Approach Delay [s/veh]	0.00		0.00		9.05	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.37					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	19	0	0	21	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	21	3	0	51	0	0	0	0	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	40	3	0	72	0	0	0	0	7	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	1	0	19	0	0	0	0	2	0	0
Total Analysis Volume [veh/h]	0	42	3	0	76	0	0	0	0	7	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	7.28	0.00	0.00	9.18	9.66	8.63	9.22	9.68	8.52
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.61	0.61
d_A, Approach Delay [s/veh]	0.00			0.00			9.16			9.22		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.50											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.033

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	229	102	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	196	80	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	0	0	425	182	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	0	112	48	2
Total Analysis Volume [veh/h]	19	0	0	447	192	7
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.56	9.04	7.60	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.59	2.59	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.56		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.33					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.037

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	112	103	0	0	33
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	29	27	0	0	9
Total Analysis Volume [veh/h]	16	118	108	0	0	35
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	7.43	0.00	0.00	0.00	10.10	8.93
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.81	0.81	0.00	0.00	2.86	2.86
d_A, Approach Delay [s/veh]	0.89		0.00		8.93	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.56					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	15	33	0	0	26
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	127	136	0	0	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	33	36	0	0	7
Total Analysis Volume [veh/h]	13	134	143	0	0	27
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	7.50	0.00	0.00	0.00	10.37	9.08
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.68	0.68	0.00	0.00	2.29	2.29
d_A, Approach Delay [s/veh]	0.66		0.00		9.08	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.08					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 8 Existing PM + P

Report File: C:\...\Existing PM + P.pdf

4/22/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	557	1205	571	592	961	882	976	562	479	605	7390

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	166	1378	183	675	1169	134	308	523	80	181	307	707	5811

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1685	13	48	1395	9	51	3201

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	163	1298	43	156	1127	97	155	135	124	99	118	214	3729

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	60	9	39	25	7	9	11	393	32	24	378	17	1004

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	139	286	83	17	229	10	8	272	180	46	242	29	1541

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	359	161	181	343	57	95	1196

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	43	8	11	13	16	21	16	319	28	13	271	22	781

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	71	8	10	348	149	33	619

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	13	31	10	97	50	15	29	394	20	8	179	78	924

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	408	1382	1178	637	382	5	566	4558

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1274	437	397	1133	582	2	269	4094

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	1	1512	2	39	1138	233	177	4	16	1	2	118	3243

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	82	1089	26	144	883	108	273	307	124	25	161	169	3391

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	110	1074	32	76	819	69	125	135	93	26	112	56	2727

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	105	898	37	101	778	107	186	106	155	45	56	76	2650

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	51	988	9	39	876	27	63	23	33	18	21	15	2163

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	105	884	14	52	859	31	52	21	284	29	10	17	2358

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	861	124	153	919	9	13	7	5	219	9	181	2509

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	16	349	396	602	493	23	29	50	15	229	84	554	2840

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	14	7	181	11	293	339	567	9	8	585	266	2293

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	58	814	82	9	759	4	7	46	261	282	69	52	2443

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	21	800	203	97	1111	0	0	12	69	193	5	45	2556



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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	202	284	1199	170	71	737	2663

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	456	63	580	574	120	752	2545

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	91	0	7	55	0	17	170

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	74	0	7	48	0	0	0	0	0	0	17	146

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	66	26	4	44	0	0	0	0	11	0	9	160

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	7	508	456	0	17	988	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	456	0	15	460	33	964	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	14	455	21	0	474	4	8	0	35	52	0	0	1063

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	17	17	7	342	150	7	540

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	34	51	49	17	0	151

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	33	7	0	56	17	0	113

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	40	3	0	72	0	0	0	0	7	0	0	122

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	18	0	0	425	182	7	632

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	15	112	103	0	0	33	263

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	12	127	136	0	0	26	301

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## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 8 Existing PM + P

Report File: C:\...\PLD Existing PM + P.pdf

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**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Left	0.681	33.3	C
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.652	38.4	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.361	3.7	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.448	21.2	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.545	12.3	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	1.072	57.3	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.247	28.3	D
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.085	17.2	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.076	12.1	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.467	10.6	B
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	0.847	33.4	C
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.760	26.4	C
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.545	13.4	B
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	0.654	32.7	C
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.576	17.8	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	1.668	43.6	D
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	NB Left	0.392	8.9	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.515	15.7	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.643	19.2	B
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	NB Left	0.770	44.0	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.541	23.4	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.711	35.4	D
23	Market St/Rivera St	Signalized	HCM 6th Edition	NB Left	0.393	14.0	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.488	10.9	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.671	21.0	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.007	8.6	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	NB Thru	0.050	9.3	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.006	9.0	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.013	11.0	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.025	11.2	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.280	4.3	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.012	11.3	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.009	9.1	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.008	8.8	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.003	8.9	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.012	10.6	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.017	8.8	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.014	8.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.681

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	475	1171	571	592	946	882	976	0	525	479	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	38	15	0	0	7	0	0	0	19	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	221	0	0	136	0	0	151
Total Hourly Volume [veh/h]	513	1186	428	592	953	661	976	0	408	479	0	454
Peak Hour Factor	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	1.0000	0.9910	0.9910	1.0000	0.9910
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	129	299	108	149	240	167	246	0	103	121	0	115
Total Analysis Volume [veh/h]	518	1197	432	597	962	667	985	0	412	483	0	458
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	2		4			3			3			
v_ci, Inbound Pedestrian Volume crossing mi	3		3			4			2			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	25	32	0	25	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	40	20	42	33	33
g / C, Green / Cycle	0.17	0.38	0.19	0.40	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.15	0.23	0.17	0.19	0.28	0.14
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	599	1986	667	2086	1097	1097
d1, Uniform Delay [s]	42.33	25.91	41.48	22.96	34.49	28.78
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.89	1.36	4.54	0.74	2.94	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.86	0.60	0.90	0.46	0.90	0.44
d, Delay for Lane Group [s/veh]	46.21	27.28	46.01	23.70	37.43	29.06
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.66	7.84	7.80	5.77	11.10	4.40
50th-Percentile Queue Length [ft/ln]	166.60	195.96	195.08	144.15	277.48	110.01
95th-Percentile Queue Length [veh/ln]	10.90	12.43	12.38	9.70	16.56	7.84
95th-Percentile Queue Length [ft/ln]	272.44	310.75	309.61	242.60	414.08	196.02

**Movement, Approach, & Intersection Results**

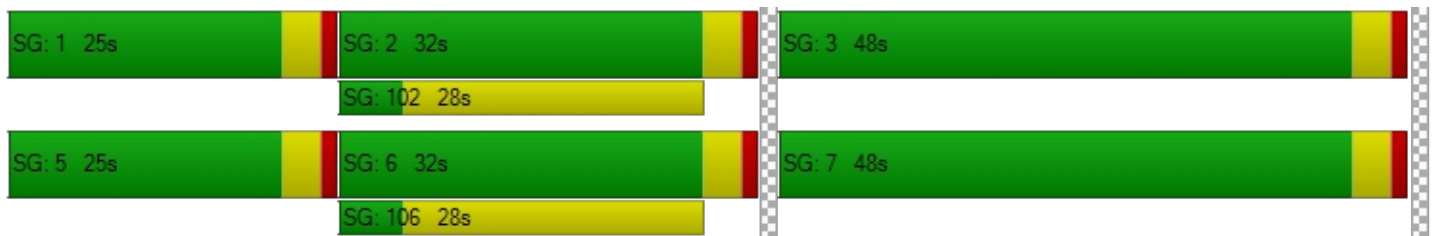
d_M, Delay for Movement [s/veh]	46.21	27.28	0.00	46.01	23.70	0.00	37.43	0.00	0.00	29.06	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	33.00			32.24			37.43			29.06		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	33.27											
Intersection LOS	C											
Intersection V/C	0.681											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			43.86			43.86		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.991			2.842		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	534			534			838			838		
d_b, Bicycle Delay [s]	28.21			28.21			17.70			17.70		
I_b,int, Bicycle LOS Score for Intersection	2.503			2.417			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	38.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.652

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	1262	183	675	1117	134	308	523	80	181	307	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	53	0	0	27	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	46	0	0	34	0	0	20	0	0	177
Total Hourly Volume [veh/h]	166	1315	137	675	1144	100	308	523	60	181	307	530
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	339	35	174	295	26	79	135	15	47	79	137
Total Analysis Volume [veh/h]	171	1356	141	696	1179	103	318	539	62	187	316	546
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	23	40	0	31	48	0	19	40	0	19	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	56	56	27	74	74	14	22	22	9	18	49
g / C, Green / Cycle	0.07	0.43	0.43	0.21	0.57	0.57	0.11	0.17	0.17	0.07	0.13	0.37
(v / s)_i Volume / Saturation Flow Rate	0.05	0.22	0.22	0.20	0.24	0.24	0.09	0.15	0.04	0.05	0.09	0.19
s, saturation flow rate [veh/h]	3514	5176	1784	3514	3618	1823	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	231	2218	765	730	2064	1040	372	618	276	246	488	1067
d1, Uniform Delay [s]	59.63	27.05	27.06	50.88	15.69	15.71	57.15	52.53	46.49	59.40	53.32	31.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.58	0.81	2.35	7.91	0.61	1.22	5.68	4.02	0.41	4.84	1.45	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.50	0.50	0.95	0.41	0.41	0.86	0.87	0.22	0.76	0.65	0.51
d, Delay for Lane Group [s/veh]	64.22	27.86	29.41	58.79	16.30	16.93	62.83	56.55	46.90	64.24	54.77	31.94
Lane Group LOS	E	C	C	E	B	B	E	E	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.84	8.12	8.74	11.77	6.94	7.21	5.32	8.70	1.73	3.11	4.85	6.42
50th-Percentile Queue Length [ft/ln]	70.98	203.05	218.51	294.25	173.45	180.36	132.91	217.51	43.31	77.71	121.30	160.39
95th-Percentile Queue Length [veh/ln]	5.11	12.80	13.59	17.40	11.26	11.62	9.10	13.54	3.12	5.60	8.46	10.57
95th-Percentile Queue Length [ft/ln]	127.77	319.90	339.73	434.91	281.44	290.49	227.44	338.45	77.96	139.89	211.61	264.24



**Movement, Approach, & Intersection Results**

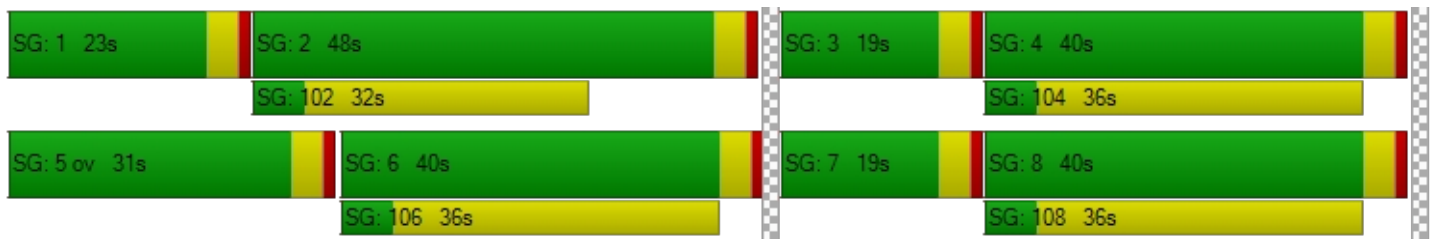
d_M, Delay for Movement [s/veh]	64.22	28.14	29.41	58.79	16.47	16.93	62.83	56.55	46.90	64.24	54.77	31.94
Movement LOS	E	C	C	E	B	B	E	E	D	E	D	C
d_A, Approach Delay [s/veh]	31.94			31.39			58.07			44.58		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	38.39											
Intersection LOS	D											
Intersection V/C	0.652											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.505	3.553	3.059	3.598
Crosswalk LOS	D	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	677	554	554
d_b, Bicycle Delay [s]	33.99	28.45	33.99	33.99
I_b,int, Bicycle LOS Score for Intersection	2.267	2.666	2.334	2.571
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	3.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.361

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1569	13	48	1343	9	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	53	0	0	27	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	3	0	0	0	13
Total Hourly Volume [veh/h]	1622	10	48	1370	9	38
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	418	3	12	353	2	10
Total Analysis Volume [veh/h]	1672	10	49	1412	9	39
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	39	0	9	48	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	3	74	3	3
g / C, Green / Cycle	0.78	0.78	0.04	0.87	0.04	0.04
(v / s)_i Volume / Saturation Flow Rate	0.32	0.01	0.01	0.27	0.00	0.02
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4017	1253	146	4476	75	67
d1, Uniform Delay [s]	3.15	2.15	39.62	1.07	39.30	40.07
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.01	1.33	0.19	0.72	7.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.01	0.33	0.32	0.12	0.59
d, Delay for Lane Group [s/veh]	3.47	2.16	40.95	1.25	40.01	48.01
Lane Group LOS	A	A	D	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.33	0.02	0.52	0.27	0.19	0.94
50th-Percentile Queue Length [ft/ln]	33.15	0.47	12.96	6.70	4.84	23.43
95th-Percentile Queue Length [veh/ln]	2.39	0.03	0.93	0.48	0.35	1.69
95th-Percentile Queue Length [ft/ln]	59.67	0.84	23.32	12.07	8.72	42.18

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.47	2.16	40.95	1.25	40.01	48.01
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	3.46		2.59		46.51	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.71					
Intersection LOS	A					
Intersection V/C	0.361					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	33.99	33.99
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.112	2.178
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	823	1035	776
d_b, Bicycle Delay [s]	14.72	9.90	15.92
I_b,int, Bicycle LOS Score for Intersection	2.486	2.363	1.560
Bicycle LOS	B	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	21.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.448

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	163	1298	43	104	1127	97	155	135	124	99	118	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	27	0	0	0	0	0	0	0	53
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	24	0	0	31	0	0	38
Total Hourly Volume [veh/h]	163	1298	32	131	1127	73	155	135	93	99	118	113
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	328	8	33	285	18	39	34	23	25	30	29
Total Analysis Volume [veh/h]	165	1311	32	132	1138	74	157	136	94	100	119	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	31	0	9	30	0	14	40	0	10	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	51	51	5	50	50	10	12	12	6	9	9
g / C, Green / Cycle	0.07	0.56	0.56	0.06	0.55	0.55	0.11	0.14	0.14	0.07	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.02	0.04	0.22	0.22	0.09	0.04	0.06	0.06	0.03	0.07
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1841	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	237	2910	908	199	1994	1015	193	493	220	122	352	157
d1, Uniform Delay [s]	41.13	11.57	8.81	41.70	11.67	11.67	39.42	34.96	35.73	41.50	38.00	39.54
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.63	0.51	0.07	3.78	0.61	1.19	8.09	0.30	1.31	12.40	0.56	6.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.69	0.45	0.04	0.66	0.40	0.40	0.81	0.28	0.43	0.82	0.34	0.73
d, Delay for Lane Group [s/veh]	44.77	12.07	8.88	45.49	12.28	12.86	47.51	35.26	37.04	53.90	38.56	45.78
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.89	4.84	0.28	1.53	4.46	4.70	3.78	1.35	1.95	2.59	1.24	2.69
50th-Percentile Queue Length [ft/ln]	47.28	120.94	7.01	38.16	111.44	117.58	94.60	33.64	48.79	64.68	31.02	67.28
95th-Percentile Queue Length [veh/ln]	3.40	8.44	0.50	2.75	7.92	8.26	6.81	2.42	3.51	4.66	2.23	4.84
95th-Percentile Queue Length [ft/ln]	85.10	211.12	12.62	68.69	198.01	206.50	170.28	60.54	87.83	116.42	55.84	121.10

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.77	12.07	8.88	45.49	12.45	12.86	47.51	35.26	37.04	53.90	38.56	45.78
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.58			15.72			40.66			45.64		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	21.15											
Intersection LOS	C											
Intersection V/C	0.448											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.179	3.125	2.629	2.619
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	599	577	799	710
d_b, Bicycle Delay [s]	22.09	22.80	16.24	18.73
I_b,int, Bicycle LOS Score for Intersection	2.395	2.312	1.904	1.866
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.545

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	6	25	7	9	11	360	6	9	305	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	0	15	0	0	0	0	17	13	8	33	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	9	21	25	7	9	11	377	19	17	338	17
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	2	5	7	2	2	3	98	5	4	88	4
Total Analysis Volume [veh/h]	28	9	22	26	7	9	11	392	20	18	352	18
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	629	612	775	769
Degree of Utilization, x	0.09	0.07	0.55	0.50

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.31	0.22	3.34	2.88
95th-Percentile Queue Length [ft]	7.73	5.52	83.61	72.05
Approach Delay [s/veh]	9.32	9.33	13.06	12.36
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	12.35			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	57.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.072

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	7	7	0	4	0	0	22	9	4	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	117	276	73	17	226	10	8	247	171	43	217	29
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	71	19	4	58	3	2	64	44	11	56	8
Total Analysis Volume [veh/h]	121	286	76	18	234	10	8	256	177	45	225	30
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	483	415	465	425
Degree of Utilization, x	1.07	0.63	0.95	0.71

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	15.63	4.21	11.48	5.35
95th-Percentile Queue Length [ft]	390.66	105.34	286.96	133.84
Approach Delay [s/veh]	91.22	25.42	58.06	29.33
Approach LOS	F	D	F	D
Intersection Delay [s/veh]	57.28			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	28.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.247

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	352	154	59	326	40	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	4	53	8	8	25
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	356	158	112	334	48	71
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	96	43	30	90	13	19
Total Analysis Volume [veh/h]	384	170	121	360	52	77
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.00	0.25	0.13
d_M, Delay for Movement [s/veh]	0.00	0.00	8.98	0.00	28.31	17.20
Movement LOS	A	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.40	0.40	1.70	1.70
95th-Percentile Queue Length [ft/ln]	0.00	0.00	9.99	9.99	42.49	42.49
d_A, Approach Delay [s/veh]	0.00		2.26		21.68	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	3.34					
Intersection LOS	D					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.085

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	11	8	11	13	16	21	16	269	13	13	249	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	0	0	22	8	0	12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	8	11	13	16	21	16	291	21	13	261	22
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	2	3	3	4	6	4	77	6	3	69	6
Total Analysis Volume [veh/h]	28	8	12	14	17	22	17	309	22	14	277	23
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.02	0.02	0.04	0.05	0.03	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	17.16	16.19	11.25	16.40	15.93	10.80	7.87	0.00	0.00	7.94	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.42	0.42	0.42	0.39	0.39	0.39	0.04	0.04	0.04	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	10.42	10.42	10.42	9.78	9.78	9.78	1.02	1.02	1.02	0.86	0.86	0.86
d_A, Approach Delay [s/veh]	15.52			13.93			0.38			0.35		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	2.26											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.076

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	13	8	10	210	93	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	0	0	60	29	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	8	10	270	122	22
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	2	3	75	34	6
Total Analysis Volume [veh/h]	42	9	11	300	136	24
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.11	9.56	7.53	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.28	0.28	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.05	7.05	0.58	0.58	0.00	0.00
d_A, Approach Delay [s/veh]	11.66		0.27		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.30					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	27	0	0	0	93	0	0	45	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	31	10	65	50	15	29	273	20	8	137	66
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	17	13	4	8	71	5	2	36	17
Total Analysis Volume [veh/h]	14	32	10	68	52	16	30	286	21	8	143	69
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	664	672	677	788	663	767
Degree of Utilization, x	0.08	0.20	0.47	0.03	0.23	0.09

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.28	0.75	2.49	0.08	0.87	0.30
95th-Percentile Queue Length [ft]	6.89	18.82	62.33	2.05	21.80	7.39
Approach Delay [s/veh]	8.92	9.71	12.28		9.13	
Approach LOS	A	A	B		A	
Intersection Delay [s/veh]	10.64					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	33.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.847

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	33	15	0	0	8	0	0	0	0	19	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	159	0	0	0	0	0	142
Total Hourly Volume [veh/h]	363	1363	0	0	1172	478	0	0	0	365	5	424
Peak Hour Factor	0.9320	0.9320	1.0000	1.0000	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	366	0	0	314	128	0	0	0	98	1	114
Total Analysis Volume [veh/h]	389	1462	0	0	1258	513	0	0	0	392	5	455
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	18	44	0	0	26	0	0	0	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	65	65	65	65		65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	14	40	22	22		17	17
g / C, Green / Cycle	0.22	0.62	0.34	0.34		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.24	0.43	0.26	0.34		0.26	0.27
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1697	1530
c, Capacity [veh/h]	350	2110	1657	517		444	401
d1, Uniform Delay [s]	25.58	8.42	19.25	21.53		23.94	24.09
k, delay calibration	0.11	0.50	0.50	0.50		0.13	0.15
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	59.14	1.90	3.32	37.72		17.56	34.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.11	0.69	0.76	0.99		0.98	1.04
d, Delay for Lane Group [s/veh]	84.72	10.32	22.57	59.25		41.49	59.06
Lane Group LOS	F	B	C	E		D	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	10.81	5.75	5.64	12.43		8.32	9.58
50th-Percentile Queue Length [ft/ln]	270.17	143.77	140.95	310.84		207.95	239.50
95th-Percentile Queue Length [veh/ln]	17.07	9.68	9.53	18.22		13.05	14.96
95th-Percentile Queue Length [ft/ln]	426.79	242.09	238.31	455.41		326.20	373.92

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	84.72	10.32	0.00	0.00	22.57	59.25	0.00	0.00	0.00	41.49	41.49	57.89
Movement LOS	F	B			C	E				D	D	E
d_A, Approach Delay [s/veh]	25.95				33.20		0.00		50.06			
Approach LOS	C				C		A		D			
d_I, Intersection Delay [s/veh]	33.41											
Intersection LOS	C											
Intersection V/C	0.847											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	24.19	24.19
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.220	2.450
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1228	675	0	522
d_b, Bicycle Delay [s]	4.85	14.29	32.57	17.79
I_b,int, Bicycle LOS Score for Intersection	3.087	2.621	4.132	3.200
Bicycle LOS	C	B	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.760

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1162	352	397	1083	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	49	37	0	26	0	0	0	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	97	0	0	0	0	0	63	0	0	0
Total Hourly Volume [veh/h]	0	1211	292	397	1109	0	582	2	190	0	0	0
Peak Hour Factor	1.0000	0.9660	0.9660	0.9660	0.9660	1.0000	0.9660	0.9660	0.9660	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	313	76	103	287	0	151	1	49	0	0	0
Total Analysis Volume [veh/h]	0	1254	302	411	1148	0	602	2	197	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	22	0	22	44	0	0	21	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	65	65	65	65	65	65	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	18	18	18	40	17	17	
g / C, Green / Cycle	0.28	0.28	0.28	0.62	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.20	0.25	0.33	0.24	0.25	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1620	
c, Capacity [veh/h]	1359	424	449	2110	424	424	
d1, Uniform Delay [s]	22.92	21.25	22.86	7.26	23.54	23.71	
k, delay calibration	0.50	0.50	0.12	0.50	0.11	0.12	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	11.82	9.77	8.69	1.01	9.71	12.79	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.92	0.71	0.92	0.54	0.93	0.95	
d, Delay for Lane Group [s/veh]	34.74	31.02	31.55	8.27	33.25	36.50	
Lane Group LOS	C	C	C	A	C	D	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	7.21	4.99	6.70	3.81	6.63	7.17	
50th-Percentile Queue Length [ft/ln]	180.37	124.70	167.51	95.34	165.84	179.15	
95th-Percentile Queue Length [veh/ln]	11.62	8.65	10.95	6.86	10.86	11.56	
95th-Percentile Queue Length [ft/ln]	290.50	216.27	273.63	171.61	271.43	288.91	



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	34.74	31.02	31.55	8.27	0.00	34.36	36.50	36.50	0.00	0.00	0.00
Movement LOS		C	C	C	A		C	D	D			
d_A, Approach Delay [s/veh]		34.02		14.41			34.90			0.00		
Approach LOS		C		B			C			A		
d_I, Intersection Delay [s/veh]	26.39											
Intersection LOS	C											
Intersection V/C	0.760											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	24.19	24.19
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.296	2.096
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	553	1228	522	0
d_b, Bicycle Delay [s]	17.06	4.85	17.79	32.57
I_b,int, Bicycle LOS Score for Intersection	2.469	2.846	2.985	4.132
Bicycle LOS	B	C	C	D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.545

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	1316	2	39	1056	233	177	4	16	1	2	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	86	0	0	42	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	58	0	0	4	0	0	30
Total Hourly Volume [veh/h]	1	1402	1	39	1098	175	177	4	12	1	2	88
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	358	0	10	281	45	45	1	3	0	1	22
Total Analysis Volume [veh/h]	1	1434	1	40	1123	179	181	4	12	1	2	90
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	30	0	9	30	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	37	37	43	39	39	14	14	14
g / C, Green / Cycle	0.67	0.57	0.57	0.67	0.61	0.61	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.00	0.40	0.40	0.08	0.33	0.12	0.14	0.01	0.06
s, saturation flow rate [veh/h]	564	1800	1800	512	3427	1530	1325	1590	1514
c, Capacity [veh/h]	422	991	991	378	2018	901	292	358	397
d1, Uniform Delay [s]	5.36	10.92	10.92	7.47	8.18	6.22	24.11	19.71	20.76
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	4.60	4.60	0.56	1.11	0.49	2.14	0.05	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.00	0.72	0.72	0.11	0.56	0.20	0.62	0.04	0.23
d, Delay for Lane Group [s/veh]	5.36	15.51	15.51	8.03	9.29	6.72	26.25	19.76	21.06
Lane Group LOS	A	B	B	A	A	A	C	B	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.00	7.13	7.13	0.19	3.84	0.98	2.69	0.19	1.16
50th-Percentile Queue Length [ft/ln]	0.08	178.30	178.29	4.65	96.06	24.52	67.28	4.74	29.08
95th-Percentile Queue Length [veh/ln]	0.01	11.51	11.51	0.33	6.92	1.77	4.84	0.34	2.09
95th-Percentile Queue Length [ft/ln]	0.15	287.80	287.78	8.36	172.91	44.13	121.11	8.53	52.35

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	5.36	15.51	15.51	8.03	9.29	6.72	26.25	19.76	19.76	21.06	21.06	21.06
Movement LOS	A	B	B	A	A	A	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	15.51			8.91			25.72			21.06		
Approach LOS	B			A			C			C		
d_I, Intersection Delay [s/veh]	13.44											
Intersection LOS	B											
Intersection V/C	0.545											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	24.12	24.12	24.12
I_p,int, Pedestrian LOS Score for Intersection	2.790	0.000	2.075	1.859
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	677	677
d_b, Bicycle Delay [s]	11.70	11.70	14.22	14.22
I_b,int, Bicycle LOS Score for Intersection	2.745	2.715	1.891	1.763
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	32.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.654

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	86	0	0	42	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	27	0	0	31	0	0	42
Total Hourly Volume [veh/h]	82	979	19	144	843	81	273	307	93	25	161	127
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	256	5	38	221	21	71	80	24	7	42	33
Total Analysis Volume [veh/h]	86	1025	20	151	883	85	286	321	97	26	169	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	14	34	0	21	40	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	41	41	10	45	45	17	26	26	3	11	11
g / C, Green / Cycle	0.06	0.43	0.43	0.11	0.47	0.47	0.18	0.27	0.27	0.03	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.05	0.29	0.29	0.09	0.27	0.27	0.18	0.09	0.06	0.02	0.09	0.09
s, saturation flow rate [veh/h]	1619	1800	1788	1619	1800	1745	1619	3427	1530	1619	1800	1548
c, Capacity [veh/h]	104	770	764	171	845	819	290	929	415	44	215	185
d1, Uniform Delay [s]	44.02	22.00	22.00	41.95	18.43	18.43	38.93	27.90	27.00	45.74	40.45	40.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.13	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.23	4.84	4.87	13.39	2.92	3.01	23.54	0.22	0.29	11.65	4.81	7.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.83	0.68	0.68	0.88	0.58	0.58	0.99	0.35	0.23	0.59	0.73	0.78
d, Delay for Lane Group [s/veh]	59.25	26.84	26.87	55.34	21.34	21.44	62.48	28.12	27.28	57.39	45.25	47.75
Lane Group LOS	E	C	C	E	C	C	E	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.42	10.07	10.01	4.09	8.19	7.97	8.43	2.93	1.73	0.75	3.81	3.61
50th-Percentile Queue Length [ft/ln]	60.57	251.72	250.26	102.29	204.76	199.22	210.67	73.17	43.20	18.67	95.19	90.23
95th-Percentile Queue Length [veh/ln]	4.36	15.27	15.20	7.36	12.88	12.60	13.19	5.27	3.11	1.34	6.85	6.50
95th-Percentile Queue Length [ft/ln]	109.02	381.82	379.99	184.12	322.09	314.96	329.68	131.71	77.76	33.60	171.35	162.41

**Movement, Approach, & Intersection Results**

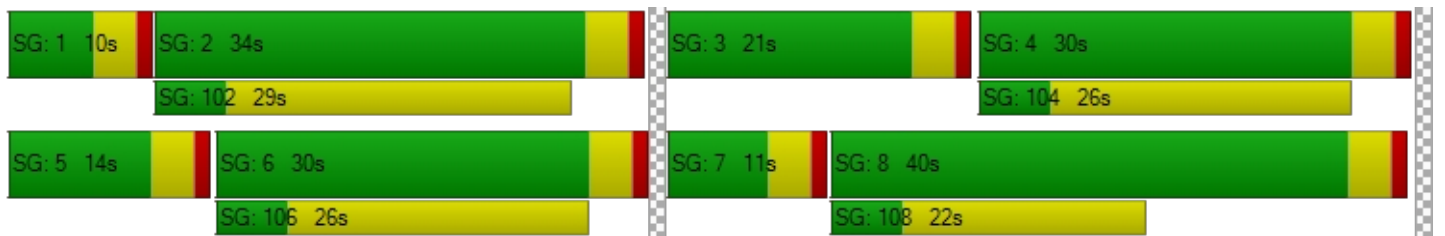
d_M, Delay for Movement [s/veh]	59.25	26.86	26.87	55.34	21.39	21.44	62.48	28.12	27.28	57.39	45.42	47.75
Movement LOS	E	C	C	E	C	C	E	C	C	E	D	D
d_A, Approach Delay [s/veh]	29.32			25.97			41.96			47.32		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	32.69											
Intersection LOS	C											
Intersection V/C	0.654											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.97	38.97	38.97	38.97
I_p,int, Pedestrian LOS Score for Intersection	2.738	2.923	2.796	2.658
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	631	757	547
d_b, Bicycle Delay [s]	25.09	22.27	18.36	25.09
I_b,int, Bicycle LOS Score for Intersection	2.498	2.505	2.166	1.865
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	17.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	110	927	32	76	759	47	75	135	93	26	112	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	64	0	0	31	12	22	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	15	0	0	23	0	0	14
Total Hourly Volume [veh/h]	110	991	24	76	790	44	97	135	70	26	112	42
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	273	7	21	218	12	27	37	19	7	31	12
Total Analysis Volume [veh/h]	121	1091	26	84	870	48	107	149	77	29	123	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	18	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	30	30	4	28	28	15	15
g / C, Green / Cycle	0.09	0.49	0.49	0.07	0.46	0.46	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.07	0.31	0.31	0.05	0.26	0.26	0.21	0.12
s, saturation flow rate [veh/h]	1619	1800	1785	1619	1800	1767	1568	1674
c, Capacity [veh/h]	153	883	876	108	833	818	460	475
d1, Uniform Delay [s]	26.65	11.34	11.34	27.62	11.68	11.68	21.71	19.47
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.75	3.47	3.51	11.12	2.67	2.72	2.17	0.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.79	0.63	0.64	0.77	0.56	0.56	0.72	0.42
d, Delay for Lane Group [s/veh]	35.41	14.81	14.85	38.74	14.35	14.40	23.88	20.05
Lane Group LOS	D	B	B	D	B	B	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.97	5.42	5.39	1.46	4.40	4.34	4.38	2.15
50th-Percentile Queue Length [ft/ln]	49.34	135.46	134.66	36.51	110.11	108.38	109.41	53.86
95th-Percentile Queue Length [veh/ln]	3.55	9.24	9.19	2.63	7.85	7.75	7.81	3.88
95th-Percentile Queue Length [ft/ln]	88.81	230.90	229.81	65.72	196.15	193.74	195.18	96.96

**Movement, Approach, & Intersection Results**

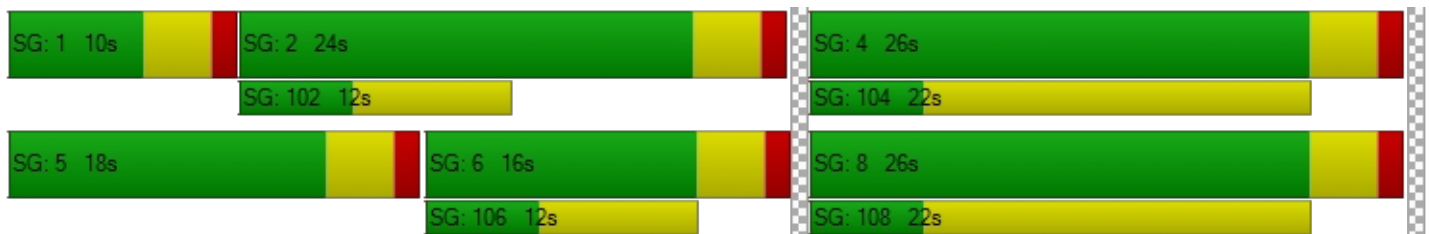
d_M, Delay for Movement [s/veh]	35.41	14.83	14.85	38.74	14.37	14.40	23.88	23.88	23.88	20.05	20.05	20.05
Movement LOS	D	B	B	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	16.84			16.42			23.88			20.05		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	17.76											
Intersection LOS	B											
Intersection V/C	0.576											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.771			2.898			2.052			2.027		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	399			666			732			732		
d_b, Bicycle Delay [s]	19.24			13.37			12.07			12.07		
I_b,int, Bicycle LOS Score for Intersection	2.588			2.399			2.147			1.909		
Bicycle LOS	B			B			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	43.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.668

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↑			↵ ↑			↑ ↵			↑ ↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	31	64	7	48	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	20	0	0	24	0	0	19
Total Hourly Volume [veh/h]	82	898	28	101	778	58	103	96	70	45	53	57
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	238	7	27	206	15	27	25	19	12	14	15
Total Analysis Volume [veh/h]	87	951	30	107	824	61	109	102	74	48	56	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	0	9	22	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	21	21	5	22	22	22	22	22	22
g / C, Green / Cycle	0.07	0.35	0.35	0.08	0.37	0.37	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.27	0.07	0.25	0.25	1.33	0.05	0.54	0.04
s, saturation flow rate [veh/h]	1619	1800	1781	1619	1800	1757	159	1530	194	1530
c, Capacity [veh/h]	109	636	629	133	663	647	149	558	158	558
d1, Uniform Delay [s]	27.61	17.29	17.29	27.07	15.93	15.93	22.13	12.74	16.10	12.62
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.60	8.97	9.06	10.60	5.44	5.57	222.66	0.11	19.31	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.78	0.78	0.80	0.68	0.68	1.42	0.13	0.66	0.11
d, Delay for Lane Group [s/veh]	40.20	26.26	26.35	37.67	21.37	21.50	244.78	12.85	35.41	12.70
Lane Group LOS	D	C	C	D	C	C	F	B	D	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.55	6.96	6.90	1.82	5.57	5.46	11.26	0.61	1.70	0.49
50th-Percentile Queue Length [ft/ln]	38.64	173.97	172.53	45.39	139.20	136.43	281.42	15.37	42.47	12.34
95th-Percentile Queue Length [veh/ln]	2.78	11.28	11.21	3.27	9.44	9.29	19.85	1.11	3.06	0.89
95th-Percentile Queue Length [ft/ln]	69.55	282.12	280.24	81.70	235.94	232.21	496.23	27.66	76.45	22.21

**Movement, Approach, & Intersection Results**

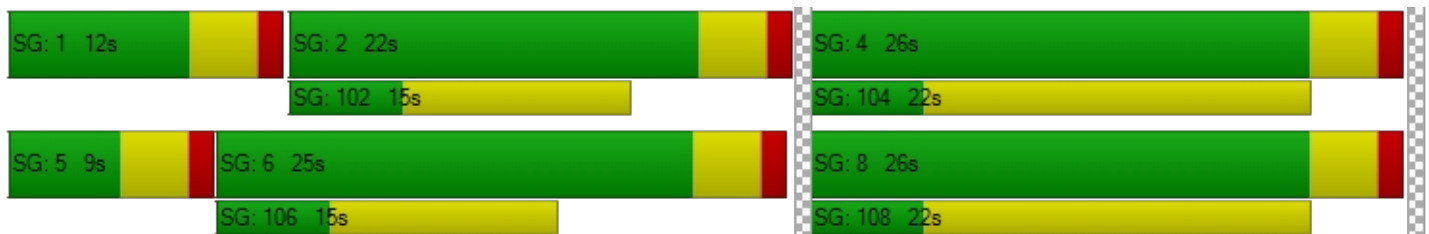
d_M, Delay for Movement [s/veh]	40.20	26.31	26.35	37.67	21.43	21.50	244.78	244.78	12.85	35.41	35.41	12.70
Movement LOS	D	C	C	D	C	C	F	F	B	D	D	B
d_A, Approach Delay [s/veh]	27.44			23.19			184.56			27.11		
Approach LOS	C			C			F			C		
d_I, Intersection Delay [s/veh]	43.58											
Intersection LOS	D											
Intersection V/C	1.668											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.69			21.69			21.69			21.69		
I_p,int, Pedestrian LOS Score for Intersection	2.761			2.883			2.128			2.088		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			600			733			733		
d_b, Bicycle Delay [s]	12.68			14.71			12.04			12.04		
I_b,int, Bicycle LOS Score for Intersection	2.448			2.395			2.069			1.862		
Bicycle LOS	B			B			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.392

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	51	941	9	39	767	27	63	23	33	18	21	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	0	0	48	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	7	0	0	8	0	0	4
Total Hourly Volume [veh/h]	51	965	7	39	815	20	63	23	25	18	21	11
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	262	2	11	221	5	17	6	7	5	6	3
Total Analysis Volume [veh/h]	55	1048	8	42	885	22	68	25	27	20	23	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	40	3	39	39	6	6
g / C, Green / Cycle	0.05	0.67	0.67	0.04	0.66	0.66	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.29	0.29	0.03	0.25	0.25	0.07	0.03
s, saturation flow rate [veh/h]	1619	1800	1795	1619	1800	1785	1654	1753
c, Capacity [veh/h]	83	1196	1192	70	1181	1171	248	245
d1, Uniform Delay [s]	28.00	4.79	4.79	28.24	4.75	4.75	26.54	25.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.78	1.19	1.19	8.07	0.95	0.96	1.47	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.66	0.44	0.44	0.60	0.39	0.39	0.48	0.22
d, Delay for Lane Group [s/veh]	36.78	5.98	5.99	36.31	5.71	5.71	28.01	25.99
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.94	2.41	2.40	0.72	2.03	2.02	1.68	0.73
50th-Percentile Queue Length [ft/ln]	23.48	60.18	60.05	18.01	50.85	50.48	42.03	18.20
95th-Percentile Queue Length [veh/ln]	1.69	4.33	4.32	1.30	3.66	3.63	3.03	1.31
95th-Percentile Queue Length [ft/ln]	42.27	108.32	108.09	32.42	91.53	90.87	75.65	32.76

**Movement, Approach, & Intersection Results**

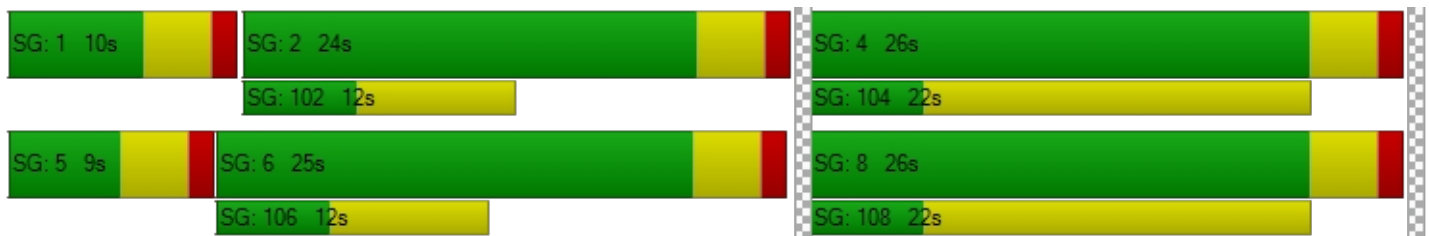
d_M, Delay for Movement [s/veh]	36.78	5.98	5.99	36.31	5.71	5.71	28.01	28.01	28.01	25.99	25.99	25.99
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.51			7.06			28.01			25.99		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.88											
Intersection LOS	A											
Intersection V/C	0.392											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.712			2.794			1.822			1.768		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			666			733			733		
d_b, Bicycle Delay [s]	12.69			13.35			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.478			2.348			1.771			1.657		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	105	845	14	52	766	14	45	21	284	29	10	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	0	41	8	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	6	0	0	71	0	0	4
Total Hourly Volume [veh/h]	105	865	10	52	807	16	49	21	213	29	10	13
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	233	3	14	218	4	13	6	57	8	3	4
Total Analysis Volume [veh/h]	113	933	11	56	871	17	53	23	230	31	11	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	24	0	10	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	31	31	3	29	29	14	14
g / C, Green / Cycle	0.09	0.52	0.52	0.05	0.48	0.48	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.26	0.26	0.03	0.25	0.25	0.20	0.05
s, saturation flow rate [veh/h]	1619	1800	1793	1619	1800	1788	1544	1059
c, Capacity [veh/h]	146	928	924	85	861	855	429	339
d1, Uniform Delay [s]	26.77	9.57	9.57	27.96	10.88	10.88	22.05	18.33
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.44	2.00	2.01	8.24	2.22	2.24	2.22	0.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.77	0.51	0.51	0.66	0.52	0.52	0.71	0.17
d, Delay for Lane Group [s/veh]	35.21	11.57	11.58	36.20	13.10	13.12	24.27	18.56
Lane Group LOS	D	B	B	D	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.84	3.83	3.82	0.95	3.96	3.94	4.05	0.60
50th-Percentile Queue Length [ft/ln]	45.96	95.83	95.50	23.66	99.07	98.49	101.32	14.92
95th-Percentile Queue Length [veh/ln]	3.31	6.90	6.88	1.70	7.13	7.09	7.29	1.07
95th-Percentile Queue Length [ft/ln]	82.73	172.50	171.89	42.58	178.33	177.29	182.37	26.86

**Movement, Approach, & Intersection Results**

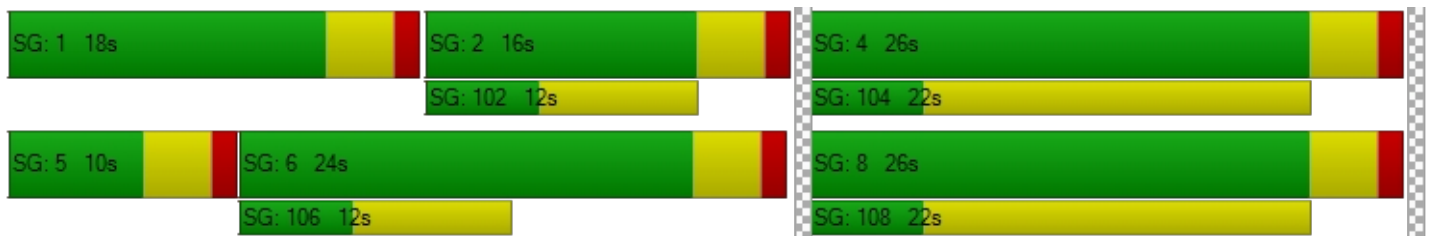
d_M, Delay for Movement [s/veh]	35.21	11.57	11.58	36.20	13.11	13.12	24.27	24.27	24.27	18.56	18.56	18.56
Movement LOS	D	B	B	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	14.10			14.48			24.27			18.56		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	15.68											
Intersection LOS	B											
Intersection V/C	0.515											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.772	2.746	2.052	1.776
Crosswalk LOS	C	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	666	399	732	732
d_b, Bicycle Delay [s]	13.37	19.24	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.435	2.343	2.182	1.659
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	9	822	124	153	826	9	13	7	5	219	9	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	0	41	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	31	0	0	2	0	0	1	0	0	45
Total Hourly Volume [veh/h]	9	842	93	153	867	7	13	7	4	219	9	136
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	235	26	43	242	2	4	2	1	61	3	38
Total Analysis Volume [veh/h]	10	941	104	171	969	8	15	8	4	245	10	152
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	23	0	11	20	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	24	24	7	31	31	17	17	17
g / C, Green / Cycle	0.01	0.41	0.41	0.12	0.51	0.51	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.01	0.30	0.30	0.11	0.27	0.27	0.12	0.24	0.10
s, saturation flow rate [veh/h]	1619	1800	1738	1619	1800	1795	233	1055	1530
c, Capacity [veh/h]	24	730	705	191	915	912	158	410	424
d1, Uniform Delay [s]	29.37	15.09	15.09	26.17	9.98	9.98	17.71	20.75	17.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.00	6.29	6.51	13.63	2.24	2.24	0.51	1.55	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.73	0.73	0.90	0.53	0.53	0.17	0.62	0.36
d, Delay for Lane Group [s/veh]	40.37	21.38	21.60	39.81	12.22	12.22	18.22	22.30	17.96
Lane Group LOS	D	C	C	D	B	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.21	6.59	6.41	2.99	4.14	4.13	0.27	3.26	1.61
50th-Percentile Queue Length [ft/ln]	5.25	164.77	160.20	74.69	103.55	103.30	6.84	81.61	40.18
95th-Percentile Queue Length [veh/ln]	0.38	10.80	10.56	5.38	7.46	7.44	0.49	5.88	2.89
95th-Percentile Queue Length [ft/ln]	9.46	270.03	263.99	134.45	186.38	185.94	12.31	146.90	72.32

**Movement, Approach, & Intersection Results**

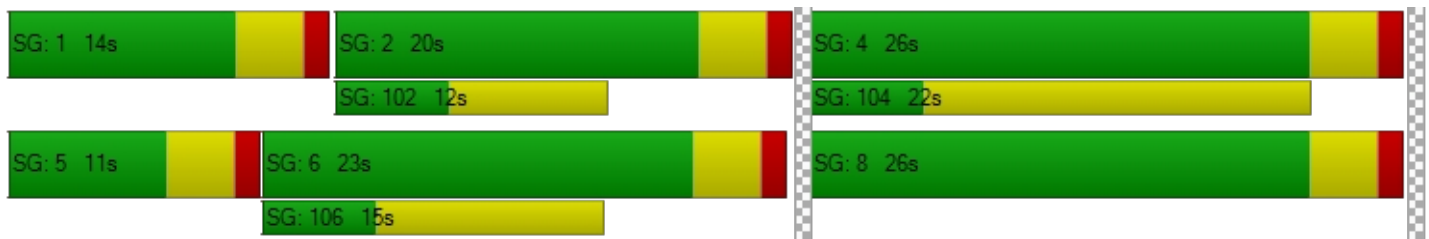
d_M, Delay for Movement [s/veh]	40.37	21.48	21.60	39.81	12.22	12.22	18.22	18.22	18.22	22.30	22.30	17.96
Movement LOS	D	C	C	D	B	B	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	21.67			16.33			18.22			20.68		
Approach LOS	C			B			B			C		
d_I, Intersection Delay [s/veh]	19.16											
Intersection LOS	B											
Intersection V/C	0.643											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.754			1.725			2.234		
Crosswalk LOS	F			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	632			533			732			732		
d_b, Bicycle Delay [s]	14.05			16.17			12.07			12.07		
I_b,int, Bicycle LOS Score for Intersection	2.456			2.508			1.606			2.305		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	44.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	30	11	0	0	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	99	0	0	6	0	0	4	0	0	135
Total Hourly Volume [veh/h]	16	344	297	564	479	17	29	50	11	229	84	405
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	95	82	155	132	5	8	14	3	63	23	112
Total Analysis Volume [veh/h]	18	379	327	621	528	19	32	55	12	252	93	446
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	53	29	0	45	21	0	0	9	0	0	27	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	27	27	39	64	64	5	5	22
g / C, Green / Cycle	0.02	0.24	0.24	0.36	0.58	0.58	0.05	0.05	0.20
(v / s)_i Volume / Saturation Flow Rate	0.01	0.10	0.20	0.34	0.15	0.01	0.02	0.04	0.19
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1842	1833
c, Capacity [veh/h]	36	881	393	648	2105	940	89	91	374
d1, Uniform Delay [s]	53.40	35.19	39.50	34.51	11.27	9.74	50.63	51.62	42.97
k, delay calibration	0.11	0.50	0.50	0.40	0.50	0.50	0.11	0.11	0.22
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.52	1.54	18.25	23.11	0.29	0.04	2.42	11.08	17.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.50	0.43	0.83	0.96	0.25	0.02	0.36	0.74	0.92
d, Delay for Lane Group [s/veh]	63.92	36.72	57.75	57.63	11.55	9.78	53.06	62.70	60.27
Lane Group LOS	E	D	E	E	B	A	D	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.60	4.48	10.30	19.98	3.15	0.20	0.91	2.10	10.91
50th-Percentile Queue Length [ft/ln]	14.92	111.88	257.44	499.60	78.65	5.02	22.80	52.44	272.82
95th-Percentile Queue Length [veh/ln]	1.07	7.94	15.56	27.32	5.66	0.36	1.64	3.78	16.33
95th-Percentile Queue Length [ft/ln]	26.86	198.61	389.01	682.89	141.58	9.04	41.04	94.38	408.26



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	63.92	36.72	57.75	57.63	11.55	9.78	53.06	62.70	62.70	60.27	60.27	0.00
Movement LOS	E	D	E	E	B	A	D	E	E	E	E	
d_A, Approach Delay [s/veh]	46.89			36.02			59.58			60.27		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	43.97											
Intersection LOS	D											
Intersection V/C	0.770											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	454			309			91			418		
d_b, Bicycle Delay [s]	32.85			39.33			50.13			34.42		
I_b,int, Bicycle LOS Score for Intersection	2.239			2.528			1.730			2.129		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.541

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	14	7	181	11	293	339	499	9	8	556	266
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	30	0	0	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	73	0	0	2	0	0	67
Total Hourly Volume [veh/h]	13	14	5	181	11	220	339	529	7	8	571	199
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	1	48	3	58	90	141	2	2	152	53
Total Analysis Volume [veh/h]	14	15	5	192	12	234	360	562	7	9	607	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	21	30	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	16	29	29	1	14	14
g / C, Green / Cycle	0.40	0.40	0.40	0.22	0.41	0.41	0.01	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.14	0.20	0.16	0.00	0.00	0.17	0.13
s, saturation flow rate [veh/h]	1055	1173	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	498	573	652	407	1490	665	24	725	324
d1, Uniform Delay [s]	13.49	15.93	14.58	26.31	14.36	12.18	34.31	26.94	25.79
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	1.72	1.54	6.54	0.16	0.01	9.51	2.67	2.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.07	0.36	0.36	0.89	0.38	0.01	0.38	0.84	0.65
d, Delay for Lane Group [s/veh]	13.75	17.65	16.11	32.85	14.52	12.19	43.83	29.61	28.01
Lane Group LOS	B	B	B	C	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.34	2.55	2.66	6.23	2.88	0.06	0.21	4.89	3.27
50th-Percentile Queue Length [ft/ln]	8.47	63.82	66.62	155.72	71.90	1.53	5.27	122.22	81.86
95th-Percentile Queue Length [veh/ln]	0.61	4.60	4.80	10.32	5.18	0.11	0.38	8.52	5.89
95th-Percentile Queue Length [ft/ln]	15.24	114.88	119.91	258.05	129.42	2.76	9.49	212.88	147.36

**Movement, Approach, & Intersection Results**

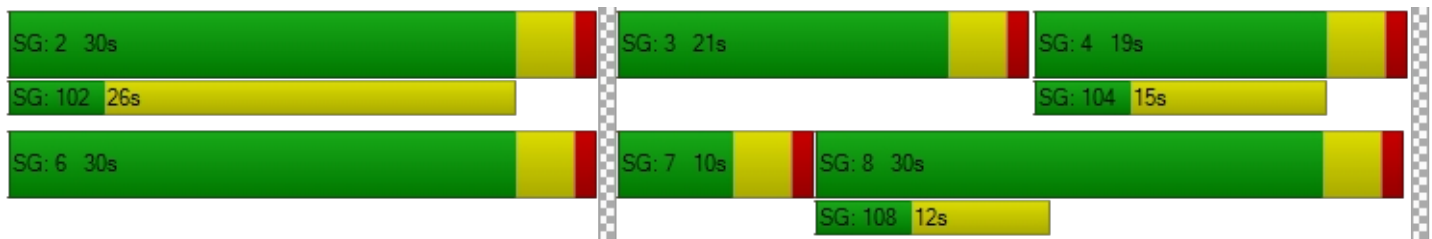
d_M, Delay for Movement [s/veh]	13.75	13.75	13.75	17.65	17.65	16.11	32.85	14.52	12.19	43.83	29.61	28.01
Movement LOS	B	B	B	B	B	B	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	13.75			16.83			21.60			29.36		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	23.42											
Intersection LOS	C											
Intersection V/C	0.541											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.61	26.61	26.61	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.739	2.411	2.767	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	742	742	742	428
d_b, Bicycle Delay [s]	13.86	13.86	13.86	21.64
I_b,int, Bicycle LOS Score for Intersection	1.619	2.403	2.328	2.297
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	35.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	0	30	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	1	0	0	65	0	0	13
Total Hourly Volume [veh/h]	58	800	61	9	721	3	7	46	196	282	69	39
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	202	15	2	182	1	2	12	50	71	17	10
Total Analysis Volume [veh/h]	59	809	62	9	729	3	7	47	198	285	70	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	46	0	10	47	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	54	54	1	51	51	15	15	19	19
g / C, Green / Cycle	0.04	0.52	0.52	0.01	0.49	0.49	0.14	0.14	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.43	0.04	0.00	0.38	0.00	0.03	0.12	0.16	0.06
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	1810	1787
c, Capacity [veh/h]	78	979	832	22	920	782	270	231	321	317
d1, Uniform Delay [s]	49.74	21.52	12.85	51.55	22.70	14.02	39.73	43.99	42.21	37.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.12	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.63	7.96	0.17	11.79	6.96	0.01	0.36	8.84	9.12	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.83	0.07	0.41	0.79	0.00	0.20	0.86	0.89	0.34
d, Delay for Lane Group [s/veh]	63.37	29.48	13.03	63.34	29.67	14.03	40.09	52.83	51.33	38.51
Lane Group LOS	E	C	B	E	C	B	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.82	17.99	0.76	0.31	16.14	0.04	1.26	5.56	7.96	2.51
50th-Percentile Queue Length [ft/ln]	45.60	449.79	19.11	7.67	403.54	0.96	31.43	139.05	199.04	62.73
95th-Percentile Queue Length [veh/ln]	3.28	24.95	1.38	0.55	22.73	0.07	2.26	9.43	12.59	4.52
95th-Percentile Queue Length [ft/ln]	82.08	623.69	34.41	13.80	568.27	1.73	56.58	235.74	314.73	112.92

**Movement, Approach, & Intersection Results**

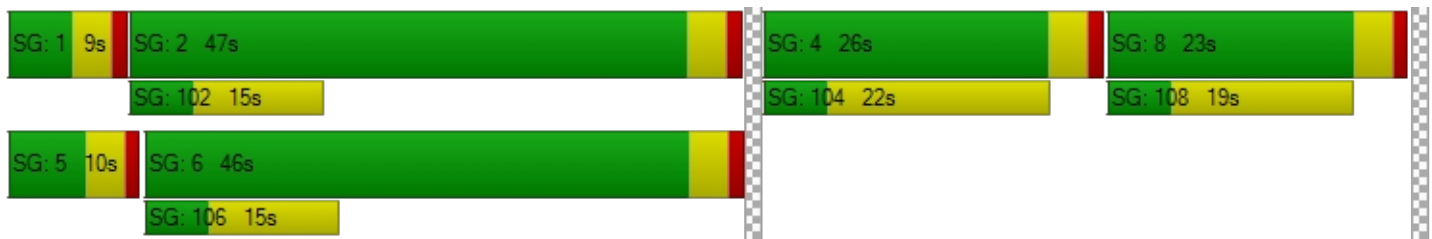
d_M, Delay for Movement [s/veh]	63.37	29.48	13.03	63.34	29.67	14.03	40.09	40.09	52.83	51.33	38.51	38.51
Movement LOS	E	C	B	E	C	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	30.53			30.02			50.10			47.78		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.43											
Intersection LOS	D											
Intersection V/C	0.711											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.92	43.92	43.92	43.92
I_p,int, Pedestrian LOS Score for Intersection	2.713	2.624	2.188	2.145
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	819	362	419
d_b, Bicycle Delay [s]	18.93	18.33	35.25	32.83
I_b,int, Bicycle LOS Score for Intersection	3.129	2.784	2.083	2.231
Bicycle LOS	C	C	B	B

**Sequence**





Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	21	771	203	97	1043	0	0	12	69	193	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	0	30	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	17	0	0	11
Total Hourly Volume [veh/h]	21	786	152	97	1073	0	0	12	52	193	5	34
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	203	39	25	277	0	0	3	13	50	1	9
Total Analysis Volume [veh/h]	22	811	157	100	1107	0	0	12	54	199	5	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	23	23	12	25	0	0	9	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	39	39	5	42	42	4	4	6	6	6
g / C, Green / Cycle	0.03	0.56	0.56	0.07	0.60	0.60	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.22	0.10	0.06	0.29	0.29	0.01	0.03	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	49	2006	896	133	1143	1143	101	86	164	164	146
d1, Uniform Delay [s]	33.68	8.98	7.72	31.90	7.87	7.87	31.68	32.57	30.78	30.78	29.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.46	0.61	0.43	8.14	1.47	1.47	0.52	7.28	3.81	3.79	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.40	0.18	0.75	0.48	0.48	0.12	0.63	0.62	0.62	0.24
d, Delay for Lane Group [s/veh]	40.14	9.59	8.15	40.05	9.34	9.34	32.20	39.85	34.59	34.57	30.53
Lane Group LOS	D	A	A	D	A	A	C	D	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.45	3.17	1.11	1.91	4.24	4.24	0.20	1.04	1.78	1.78	0.57
50th-Percentile Queue Length [ft/ln]	11.14	79.33	27.64	47.71	106.10	106.10	5.06	26.10	44.42	44.48	14.13
95th-Percentile Queue Length [veh/ln]	0.80	5.71	1.99	3.44	7.62	7.62	0.36	1.88	3.20	3.20	1.02
95th-Percentile Queue Length [ft/ln]	20.05	142.80	49.75	85.89	190.57	190.57	9.12	46.99	79.96	80.07	25.43

**Movement, Approach, & Intersection Results**

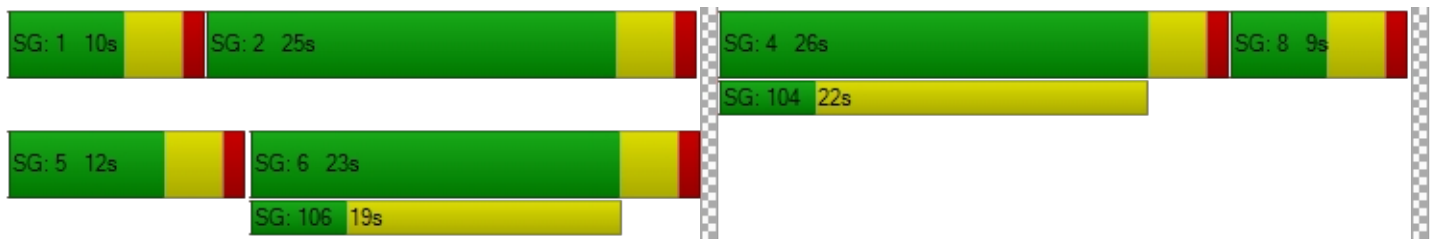
d_M, Delay for Movement [s/veh]	40.14	9.59	8.15	40.05	9.34	9.34	32.20	32.20	39.85	34.58	34.57	30.53
Movement LOS	D	A	A	D	A	A	C	C	D	C	C	C
d_A, Approach Delay [s/veh]	10.04			11.89			38.46			33.99		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	13.97											
Intersection LOS	B											
Intersection V/C	0.393											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.691			0.000			2.275		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	542			599			143			627		
d_b, Bicycle Delay [s]	18.64			17.21			30.24			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.418			2.555			1.697			1.972		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.488

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	202	284	0	0	1131	170	0	0	0	71	0	708
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	30	0	0	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	43	0	0	0	0	0	181
Total Hourly Volume [veh/h]	202	284	0	0	1161	127	0	0	0	71	0	542
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	1.0000	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	73	0	0	300	33	0	0	0	18	0	140
Total Analysis Volume [veh/h]	209	294	0	0	1201	131	0	0	0	73	0	560
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	9	48	36		4
g / C, Green / Cycle	0.14	0.81	0.60		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.33		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	259	2917	2158		110
d1, Uniform Delay [s]	24.97	1.23	7.33		27.65
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.88	0.07	1.04		6.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.81	0.10	0.56		0.66
d, Delay for Lane Group [s/veh]	30.85	1.30	8.37		34.35
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	3.12	0.08	3.75		1.18
50th-Percentile Queue Length [ft/ln]	78.10	2.04	93.65		29.47
95th-Percentile Queue Length [veh/ln]	5.62	0.15	6.74		2.12
95th-Percentile Queue Length [ft/ln]	140.58	3.67	168.57		53.05

**Movement, Approach, & Intersection Results**

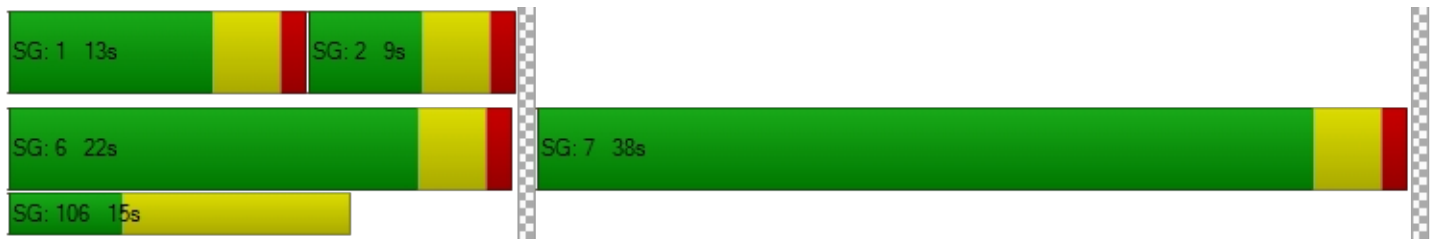
d_M, Delay for Movement [s/veh]	30.85	1.30	0.00	0.00	8.37	0.00	0.00	0.00	0.00	0.00	34.35	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	13.58				8.37				0.00		34.35		
Approach LOS	B				A				A		C		
d_I, Intersection Delay [s/veh]	10.91												
Intersection LOS	B												
Intersection V/C	0.488												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.945	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	1.975		2.550		4.132		1.560	
Bicycle LOS	A		B		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.671

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			←↑↑			↑↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	456	63	512	574	0	120	0	752	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	30	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	0	0	0	188	0	0	0
Total Hourly Volume [veh/h]	0	456	47	542	574	0	120	0	564	0	0	0
Peak Hour Factor	1.0000	0.9280	0.9280	0.9280	0.9280	1.0000	0.9280	1.0000	0.9280	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	13	146	155	0	32	0	152	0	0	0
Total Analysis Volume [veh/h]	0	491	51	584	619	0	129	0	608	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	26	41	0	19	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	13	21	38	15	15	
g / C, Green / Cycle	0.21	0.35	0.62	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.32	0.17	0.07	0.21	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	749	634	2256	440	696	
d1, Uniform Delay [s]	21.89	18.75	5.14	18.54	21.87	
k, delay calibration	0.50	0.19	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	4.46	9.96	0.30	0.37	3.64	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.66	0.92	0.27	0.29	0.87	
d, Delay for Lane Group [s/veh]	26.35	28.72	5.44	18.91	25.52	
Lane Group LOS	C	C	A	B	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	3.40	8.63	1.36	1.40	4.12	
50th-Percentile Queue Length [ft/ln]	84.95	215.72	33.99	34.99	102.97	
95th-Percentile Queue Length [veh/ln]	6.12	13.45	2.45	2.52	7.41	
95th-Percentile Queue Length [ft/ln]	152.91	336.16	61.17	62.99	185.35	

**Movement, Approach, & Intersection Results**

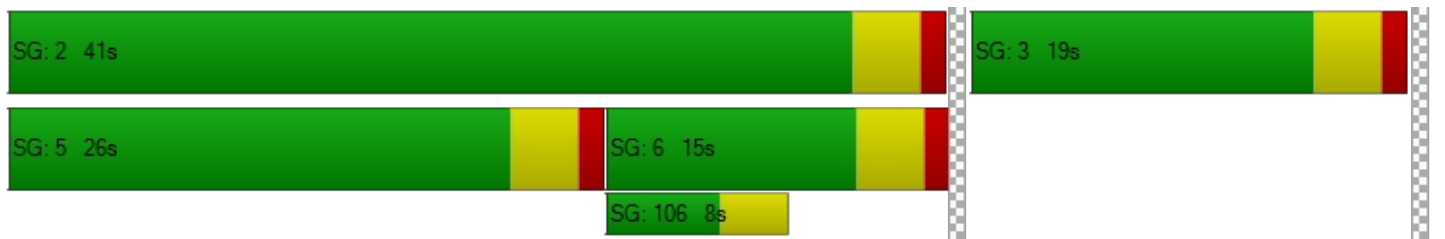
d_M, Delay for Movement [s/veh]	0.00	26.35	0.00	28.72	5.44	0.00	18.91	0.00	25.52	0.00	0.00	0.00
Movement LOS		C		C	A		B		C			
d_A, Approach Delay [s/veh]	26.35			16.74			24.36			0.00		
Approach LOS	C			B			C			A		
d_I, Intersection Delay [s/veh]	20.99											
Intersection LOS	C											
Intersection V/C	0.671											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.974		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	366			1232			499			0		
d_b, Bicycle Delay [s]	20.05			4.43			16.91			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.965			2.552			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	16	0	0	22	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	0	4	17	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	0	4	39	0	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	1	10	0	2
Total Analysis Volume [veh/h]	53	0	4	41	0	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.32	0.00	9.05	8.57
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.19	0.19	0.52	0.52
d_A, Approach Delay [s/veh]	0.00		0.65		8.57	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.85					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	4	13	0	0	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	42	0	4	35	0	0	0	0	0	0	8
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	0	1	9	0	0	0	0	0	0	2
Total Analysis Volume [veh/h]	0	44	0	4	37	0	0	0	0	0	0	8
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.05	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.97	9.27	8.51	8.97	9.23	8.53	7.23	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.16	0.14	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.91	3.91	3.91	3.59	3.59	3.59	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.27			9.21			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.44											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	11	2	11	0	0	0	0	5	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	38	11	2	33	0	0	0	0	5	0	4
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	3	1	9	0	0	0	0	1	0	1
Total Analysis Volume [veh/h]	0	40	11	2	35	0	0	0	0	5	0	4
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.30	0.00	0.00	9.00	9.48	8.45	9.01	9.49	8.53
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.10	0.10	0.10	0.00	0.00	0.00	0.71	0.71	0.71
d_A, Approach Delay [s/veh]	0.00			0.39			8.98			8.80		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.97											
Intersection LOS	A											



**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	434	423	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	33	17	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	467	440	0	0	8
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	123	116	0	0	2
Total Analysis Volume [veh/h]	4	492	463	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	0.00	0.00	11.05
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.04
95th-Percentile Queue Length [ft/ln]	0.27	0.27	0.00	0.00	0.00	1.01
d_A, Approach Delay [s/veh]	0.07		0.00		11.05	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	434	0	0	423	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	8	17	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	445	0	8	440	0	15
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	117	0	2	116	0	4
Total Analysis Volume [veh/h]	468	0	8	463	0	15
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	8.28	0.00	0.00	11.16
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.00	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.55	0.55	0.00	1.92
d_A, Approach Delay [s/veh]	0.00		0.14		11.16	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	4.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.280

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑			← ↑			↑			↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	434	0	0	423	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	11	11	0	22	2	4	0	15	23	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	1	0	0	4	0	0	0
Total Hourly Volume [veh/h]	7	445	8	0	445	1	4	0	11	23	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	117	2	0	117	0	1	0	3	6	0	0
Total Analysis Volume [veh/h]	7	468	8	0	468	1	4	0	12	24	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	28	0	9	27	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	46	0	46	2	2
g / C, Green / Cycle	0.01	0.77	0.00	0.76	0.03	0.03
(v / s)_i Volume / Saturation Flow Rate	0.00	0.27	0.00	0.26	0.01	0.01
s, saturation flow rate [veh/h]	1714	1795	1714	1799	1753	1681
c, Capacity [veh/h]	19	1380	3	1367	127	170
d1, Uniform Delay [s]	29.53	2.19	0.00	2.35	28.58	28.73
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.12	0.69	0.00	0.69	0.44	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.36	0.34	0.00	0.34	0.13	0.14
d, Delay for Lane Group [s/veh]	40.65	2.87	0.00	3.04	29.02	29.10
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.15	0.43	0.00	0.96	0.23	0.34
50th-Percentile Queue Length [ft/ln]	3.76	10.81	0.00	23.91	5.77	8.56
95th-Percentile Queue Length [veh/ln]	0.27	0.78	0.00	1.72	0.42	0.62
95th-Percentile Queue Length [ft/ln]	6.77	19.45	0.00	43.04	10.38	15.40



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	40.65	2.87	2.87	0.00	3.04	3.04	29.02	29.02	29.02	29.10	29.10	29.10
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.42			3.04			29.02			29.10		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.27											
Intersection LOS	A											
Intersection V/C	0.280											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.444			2.234			1.715			1.713		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			766			632			632		
d_b, Bicycle Delay [s]	10.83			11.44			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.362			2.335			1.593			1.599		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	220	101	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	8	4	53	25	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	8	4	273	126	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	1	72	33	1
Total Analysis Volume [veh/h]	7	8	4	287	133	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.27	9.02	7.47	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.58	1.58	0.21	0.21	0.00	0.00
d_A, Approach Delay [s/veh]	10.07		0.10		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.41					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	30	42	42	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	4	4	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	32	46	46	8	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	12	12	2	0
Total Analysis Volume [veh/h]	0	34	48	48	8	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.38	0.00	0.00	0.00	9.05	8.65
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.68	0.68
d_A, Approach Delay [s/veh]	0.00		0.00		9.05	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	19	0	0	21	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	4	0	15	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	4	0	36	8	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	0	9	2	0
Total Analysis Volume [veh/h]	27	4	0	38	8	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.26	0.00	8.85	8.46
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.64	0.64
d_A, Approach Delay [s/veh]	0.00		0.00		8.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.92					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	19	0	0	21	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	2	0	22	0	0	0	0	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	2	0	43	0	0	0	0	3	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	1	0	11	0	0	0	0	1	0	0
Total Analysis Volume [veh/h]	0	32	2	0	45	0	0	0	0	3	0	0
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.26	0.00	0.00	8.93	9.42	8.49	8.94	9.42	8.45
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25
d_A, Approach Delay [s/veh]	0.00			0.00			8.95			8.94		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.33											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	229	102	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	85	42	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	314	144	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	83	38	1
Total Analysis Volume [veh/h]	8	0	0	331	152	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.57	8.77	7.51	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.93	0.93	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.57		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	112	103	0	0	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	29	27	0	0	4
Total Analysis Volume [veh/h]	8	118	108	0	0	16
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.42	0.00	0.00	0.00	9.89	8.85
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.40	0.40	0.00	0.00	1.28	1.28
d_A, Approach Delay [s/veh]	0.47		0.00		8.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.80					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	8	15	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	120	118	0	0	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	32	31	0	0	3
Total Analysis Volume [veh/h]	6	126	124	0	0	13
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.45	0.00	0.00	0.00	10.00	8.92
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.31	0.31	0.00	0.00	1.06	1.06
d_A, Approach Delay [s/veh]	0.34		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.60					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 8 Existing PM + P

Report File: C:\...\PLD Existing PM + P.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	513	1186	571	592	953	882	976	544	479	605	7301

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	166	1315	183	675	1144	134	308	523	80	181	307	707	5723

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1622	13	48	1370	9	51	3113

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	163	1298	43	131	1127	97	155	135	124	99	118	151	3641

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	27	9	21	25	7	9	11	377	19	17	338	17	877

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	117	276	73	17	226	10	8	247	171	43	217	29	1434

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	356	158	112	334	48	71	1079



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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	26	8	11	13	16	21	16	291	21	13	261	22	719

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	38	8	10	270	122	22	470

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	13	31	10	65	50	15	29	273	20	8	137	66	717

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	363	1363	1172	637	365	5	566	4471

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1211	389	397	1109	582	2	253	3943

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	1	1402	2	39	1098	233	177	4	16	1	2	118	3093

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	82	979	26	144	843	108	273	307	124	25	161	169	3241

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	110	991	32	76	790	59	97	135	93	26	112	56	2577

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	82	898	37	101	778	78	103	96	94	45	53	76	2441

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	51	965	9	39	815	27	63	23	33	18	21	15	2079

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	105	865	14	52	807	22	49	21	284	29	10	17	2275

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	842	124	153	867	9	13	7	5	219	9	181	2438

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	16	344	396	564	479	23	29	50	15	229	84	540	2769

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	14	7	181	11	293	339	529	9	8	571	266	2241

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	58	800	82	9	721	4	7	46	261	282	69	52	2391

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	21	786	203	97	1073	0	0	12	69	193	5	45	2504

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	202	284	1161	170	71	723	2611

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	456	63	542	574	120	752	2507

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	50	0	4	39	0	7	100

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	42	0	4	35	0	0	0	0	0	0	8	89

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	38	11	2	33	0	0	0	0	5	0	4	93

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	4	467	440	0	8	919	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	445	0	8	440	15	908	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	7	445	11	0	445	2	4	0	15	23	0	0	952

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	7	8	4	273	126	4	422

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	32	46	46	8	0	132

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	26	4	0	36	8	0	74

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	30	2	0	43	0	0	0	0	3	0	0	78

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	8	0	0	314	144	4	470

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	8	112	103	0	0	15	238

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	6	120	118	0	0	12	256

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Scenario 8 Existing PM + P

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**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Left	0.682	33.3	C
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.655	38.3	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.365	3.7	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.460	21.6	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.574	13.0	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	1.137	69.4	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.274	30.9	D
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.102	17.7	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.097	12.6	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.514	11.3	B
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	0.856	35.1	D
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.764	27.0	C
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.552	13.7	B
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	0.661	32.8	C
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.589	18.2	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	1.826	50.2	D
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	NB Left	0.395	8.9	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.521	15.8	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.646	19.3	B
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	NB Left	0.776	44.5	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.542	23.4	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.714	35.7	D
23	Market St/Rivera St	Signalized	HCM 6th Edition	NB Left	0.396	14.0	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.490	10.9	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.677	21.3	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.021	8.6	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	NB Thru	0.060	9.3	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.009	9.1	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.017	11.1	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.034	11.3	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.289	4.8	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.020	11.6	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.012	9.1	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.012	8.9	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.004	9.0	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.018	10.8	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.022	8.9	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.018	9.0	A



V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.682

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	475	1171	571	592	946	882	976	0	525	479	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	50	20	0	0	11	0	0	0	28	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	221	0	0	138	0	0	151
Total Hourly Volume [veh/h]	525	1191	428	592	957	661	976	0	415	479	0	454
Peak Hour Factor	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	1.0000	0.9910	0.9910	1.0000	0.9910
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	132	300	108	149	241	167	246	0	105	121	0	115
Total Analysis Volume [veh/h]	530	1202	432	597	966	667	985	0	419	483	0	458
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	2		4			3			3			
v_ci, Inbound Pedestrian Volume crossing mi	3		3			4			2			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	25	32	0	25	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	40	20	42	33	33
g / C, Green / Cycle	0.17	0.38	0.19	0.40	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.15	0.23	0.17	0.19	0.28	0.14
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	610	1986	667	2070	1097	1097
d1, Uniform Delay [s]	42.19	25.95	41.48	23.22	34.49	28.78
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.96	1.38	4.54	0.76	2.94	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.87	0.61	0.90	0.47	0.90	0.44
d, Delay for Lane Group [s/veh]	46.15	27.33	46.01	23.98	37.43	29.06
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	6.82	7.88	7.80	5.83	11.10	4.40
50th-Percentile Queue Length [ft/ln]	170.52	197.06	195.08	145.83	277.48	110.01
95th-Percentile Queue Length [veh/ln]	11.10	12.49	12.38	9.79	16.56	7.84
95th-Percentile Queue Length [ft/ln]	277.60	312.17	309.61	244.85	414.08	196.02

**Movement, Approach, & Intersection Results**

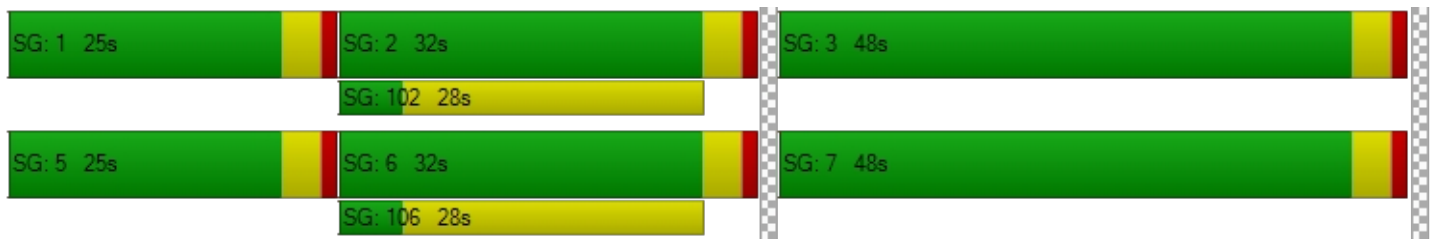
d_M, Delay for Movement [s/veh]	46.15	27.33	0.00	46.01	23.98	0.00	37.43	0.00	0.00	29.06	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	33.08			32.39			37.43			29.06		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	33.35											
Intersection LOS	C											
Intersection V/C	0.682											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			43.86			43.86		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.995			2.842		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	534			534			838			838		
d_b, Bicycle Delay [s]	28.21			28.21			17.70			17.70		
I_b,int, Bicycle LOS Score for Intersection	2.512			2.419			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	38.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	1262	183	675	1117	134	308	523	80	181	307	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	71	0	0	39	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	46	0	0	34	0	0	20	0	0	177
Total Hourly Volume [veh/h]	166	1333	137	675	1156	100	308	523	60	181	307	530
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	344	35	174	298	26	79	135	15	47	79	137
Total Analysis Volume [veh/h]	171	1374	141	696	1192	103	318	539	62	187	316	546
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	23	40	0	31	48	0	19	40	0	19	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	56	56	27	74	74	14	22	22	9	18	49
g / C, Green / Cycle	0.07	0.43	0.43	0.21	0.57	0.57	0.11	0.17	0.17	0.07	0.13	0.37
(v / s)_i Volume / Saturation Flow Rate	0.05	0.22	0.22	0.20	0.24	0.24	0.09	0.15	0.04	0.05	0.09	0.19
s, saturation flow rate [veh/h]	3514	5176	1786	3514	3618	1824	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	231	2218	765	730	2064	1040	372	618	276	246	488	1067
d1, Uniform Delay [s]	59.63	27.13	27.14	50.88	15.73	15.76	57.15	52.53	46.49	59.40	53.32	31.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.58	0.83	2.40	7.91	0.62	1.24	5.68	4.02	0.41	4.84	1.45	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.51	0.51	0.95	0.42	0.42	0.86	0.87	0.22	0.76	0.65	0.51
d, Delay for Lane Group [s/veh]	64.22	27.97	29.55	58.79	16.35	17.00	62.83	56.55	46.90	64.24	54.77	31.94
Lane Group LOS	E	C	C	E	B	B	E	E	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.84	8.25	8.88	11.77	7.03	7.31	5.32	8.70	1.73	3.11	4.85	6.42
50th-Percentile Queue Length [ft/ln]	70.98	206.17	222.04	294.25	175.72	182.87	132.91	217.51	43.31	77.71	121.30	160.39
95th-Percentile Queue Length [veh/ln]	5.11	12.96	13.77	17.40	11.38	11.75	9.10	13.54	3.12	5.60	8.46	10.57
95th-Percentile Queue Length [ft/ln]	127.77	323.91	344.23	434.91	284.42	293.76	227.44	338.45	77.96	139.89	211.61	264.24

**Movement, Approach, & Intersection Results**

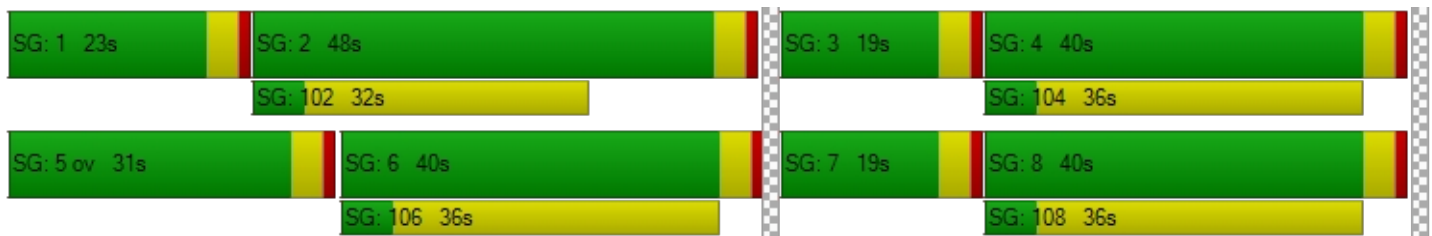
d_M, Delay for Movement [s/veh]	64.22	28.25	29.55	58.79	16.53	17.00	62.83	56.55	46.90	64.24	54.77	31.94
Movement LOS	E	C	C	E	B	B	E	E	D	E	D	C
d_A, Approach Delay [s/veh]	32.01			31.33			58.07			44.58		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	38.35											
Intersection LOS	D											
Intersection V/C	0.655											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.510	3.558	3.059	3.598
Crosswalk LOS	D	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	677	554	554
d_b, Bicycle Delay [s]	33.99	28.45	33.99	33.99
I_b,int, Bicycle LOS Score for Intersection	2.274	2.673	2.334	2.571
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	3.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.365

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1569	13	48	1343	9	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	71	0	0	39	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	3	0	0	0	13
Total Hourly Volume [veh/h]	1640	10	48	1382	9	38
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	423	3	12	356	2	10
Total Analysis Volume [veh/h]	1691	10	49	1425	9	39
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	39	0	9	48	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	3	74	3	3
g / C, Green / Cycle	0.78	0.78	0.04	0.87	0.04	0.04
(v / s)_i Volume / Saturation Flow Rate	0.33	0.01	0.01	0.28	0.00	0.02
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4017	1253	146	4476	75	67
d1, Uniform Delay [s]	3.17	2.15	39.62	1.07	39.30	40.07
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.01	1.33	0.19	0.72	7.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.01	0.33	0.32	0.12	0.59
d, Delay for Lane Group [s/veh]	3.49	2.16	40.95	1.26	40.01	48.01
Lane Group LOS	A	A	D	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.35	0.02	0.52	0.27	0.19	0.94
50th-Percentile Queue Length [ft/ln]	33.72	0.47	12.96	6.79	4.84	23.43
95th-Percentile Queue Length [veh/ln]	2.43	0.03	0.93	0.49	0.35	1.69
95th-Percentile Queue Length [ft/ln]	60.69	0.84	23.32	12.22	8.72	42.18

**Movement, Approach, & Intersection Results**

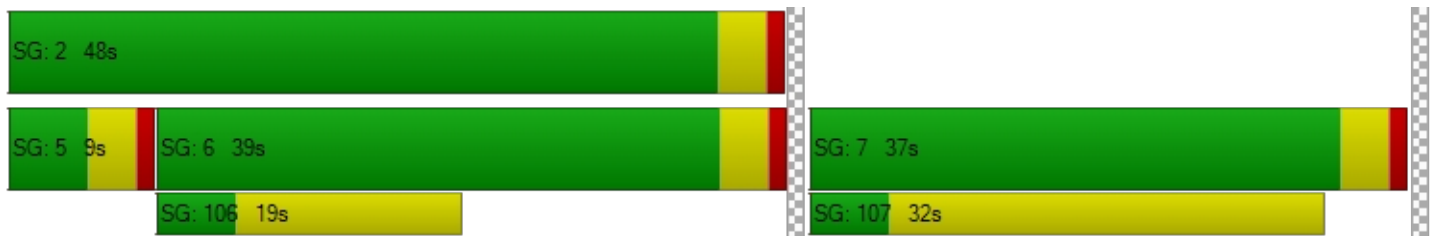
d_M, Delay for Movement [s/veh]	3.49	2.16	40.95	1.26	40.01	48.01
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	3.48		2.58		46.51	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.71					
Intersection LOS	A					
Intersection V/C	0.365					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	33.99	33.99
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.116	2.178
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	823	1035	776
d_b, Bicycle Delay [s]	14.72	9.90	15.92
I_b,int, Bicycle LOS Score for Intersection	2.497	2.370	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-









**Intersection Level Of Service Report**  
**Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.460

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	163	1298	43	104	1127	97	155	135	124	99	118	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	0	0	0	0	0	0	71
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	11	0	0	24	0	0	31	0	0	42
Total Hourly Volume [veh/h]	163	1298	32	143	1127	73	155	135	93	99	118	127
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	328	8	36	285	18	39	34	23	25	30	32
Total Analysis Volume [veh/h]	165	1311	32	144	1138	74	157	136	94	100	119	128
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	31	0	9	30	0	14	40	0	10	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	50	50	5	49	49	10	13	13	6	10	10
g / C, Green / Cycle	0.07	0.55	0.55	0.06	0.54	0.54	0.11	0.14	0.14	0.07	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.05	0.25	0.02	0.04	0.22	0.22	0.09	0.04	0.06	0.06	0.03	0.08
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1841	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	237	2864	894	199	1962	999	193	525	234	122	384	171
d1, Uniform Delay [s]	41.13	12.04	9.17	41.85	12.14	12.14	39.42	34.25	35.00	41.50	37.25	39.13
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.63	0.53	0.07	4.96	0.63	1.24	8.09	0.26	1.11	12.40	0.45	6.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.69	0.46	0.04	0.72	0.41	0.41	0.81	0.26	0.40	0.82	0.31	0.75
d, Delay for Lane Group [s/veh]	44.77	12.57	9.25	46.81	12.77	13.38	47.51	34.51	36.11	53.90	37.71	45.47
Lane Group LOS	D	B	A	D	B	B	D	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.89	4.97	0.29	1.69	4.58	4.83	3.78	1.33	1.92	2.59	1.22	3.01
50th-Percentile Queue Length [ft/ln]	47.28	124.28	7.20	42.35	114.42	120.72	94.60	33.20	48.04	64.68	30.60	75.32
95th-Percentile Queue Length [veh/ln]	3.40	8.63	0.52	3.05	8.09	8.43	6.81	2.39	3.46	4.66	2.20	5.42
95th-Percentile Queue Length [ft/ln]	85.10	215.70	12.96	76.22	202.14	210.81	170.28	59.76	86.46	116.42	55.07	135.57

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.77	12.57	9.25	46.81	12.95	13.38	47.51	34.51	36.11	53.90	37.71	45.47
Movement LOS	D	B	A	D	B	B	D	C	D	D	D	D
d_A, Approach Delay [s/veh]	16.02			16.57			40.17			45.24		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	21.64											
Intersection LOS	C											
Intersection V/C	0.460											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.179	3.129	2.629	2.630
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	599	577	799	710
d_b, Bicycle Delay [s]	22.09	22.80	16.24	18.73
I_b,int, Bicycle LOS Score for Intersection	2.395	2.319	1.904	1.881
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	6	25	7	9	11	360	6	9	305	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	20	0	0	0	0	24	20	11	44	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	9	26	25	7	9	11	384	26	20	349	17
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	2	7	7	2	2	3	100	7	5	91	4
Total Analysis Volume [veh/h]	39	9	27	26	7	9	11	400	27	21	363	18
Pedestrian Volume [ped/h]	0			0			0			0		

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**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	616	597	763	754
Degree of Utilization, x	0.12	0.07	0.57	0.53

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.41	0.23	3.71	3.19
95th-Percentile Queue Length [ft]	10.32	5.66	92.73	79.85
Approach Delay [s/veh]	9.65	9.49	13.89	13.09
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	13.03			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	69.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.137

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	10	10	0	6	0	0	31	14	6	31	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	279	76	17	228	10	8	256	176	45	226	29
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	72	20	4	59	3	2	66	46	12	58	8
Total Analysis Volume [veh/h]	128	289	79	18	236	10	8	265	182	47	234	30
Pedestrian Volume [ped/h]	0			0			0			0		



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**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	496	404	455	417
Degree of Utilization, x	1.14	0.65	1.00	0.75

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	17.87	4.51	13.01	6.05
95th-Percentile Queue Length [ft]	446.79	112.76	325.29	151.34
Approach Delay [s/veh]	113.95	27.29	70.06	33.04
Approach LOS	F	D	F	D
Intersection Delay [s/veh]	69.38			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.274

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	352	154	59	326	40	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	6	66	10	10	35
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	358	160	125	336	50	81
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	96	43	34	91	13	22
Total Analysis Volume [veh/h]	386	172	135	362	54	87
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.13	0.00	0.27	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	9.05	0.00	30.87	18.61
Movement LOS	A	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.45	0.45	2.01	2.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	11.36	11.36	50.25	50.25
d_A, Approach Delay [s/veh]	0.00		2.46		23.30	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	3.77					
Intersection LOS	D					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	17.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.102

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	11	8	11	13	16	21	16	269	13	13	249	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	0	0	0	0	0	30	11	0	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	8	11	13	16	21	16	299	24	13	266	22
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	2	3	3	4	6	4	79	6	3	71	6
Total Analysis Volume [veh/h]	33	8	12	14	17	22	17	317	25	14	282	23
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.02	0.02	0.04	0.05	0.03	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	17.69	16.67	11.59	16.69	16.19	10.87	7.88	0.00	0.00	7.96	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.49	0.49	0.49	0.40	0.40	0.40	0.04	0.04	0.04	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	12.18	12.18	12.18	9.98	9.98	9.98	1.02	1.02	1.02	0.86	0.86	0.86
d_A, Approach Delay [s/veh]	16.16			14.11			0.37			0.35		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	2.36											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.097

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	13	8	10	210	93	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	33	0	0	75	41	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	46	8	10	285	134	27
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	2	3	79	37	8
Total Analysis Volume [veh/h]	51	9	11	317	149	30
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.60	9.83	7.58	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.36	0.36	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.93	8.93	0.59	0.59	0.00	0.00
d_A, Approach Delay [s/veh]	12.19		0.25		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.44					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.514

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	36	0	0	0	118	0	0	63	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	31	10	74	50	15	29	298	20	8	155	72
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	19	13	4	8	78	5	2	41	19
Total Analysis Volume [veh/h]	14	32	10	77	52	16	30	312	21	8	162	75
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	641	652	666	773	653	751
Degree of Utilization, x	0.09	0.22	0.51	0.03	0.26	0.10

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.29	0.85	2.96	0.08	1.04	0.33
95th-Percentile Queue Length [ft]	7.15	21.18	73.89	2.09	25.99	8.28
Approach Delay [s/veh]	9.15	10.10	13.33		9.50	
Approach LOS	A	B	B		A	
Intersection Delay [s/veh]	11.30					
Intersection LOS	B					

**Intersection Level Of Service Report**  
**Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.856

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	19	0	0	11	0	0	0	0	27	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	159	0	0	0	0	0	142
Total Hourly Volume [veh/h]	372	1367	0	0	1175	478	0	0	0	373	5	424
Peak Hour Factor	0.9320	0.9320	1.0000	1.0000	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	100	367	0	0	315	128	0	0	0	100	1	114
Total Analysis Volume [veh/h]	399	1467	0	0	1261	513	0	0	0	400	5	455
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	18	44	0	0	26	0	0	0	0	0	21	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	65	65	65	65		65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	14	40	22	22		17	17
g / C, Green / Cycle	0.22	0.62	0.34	0.34		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.25	0.43	0.26	0.34		0.26	0.27
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1699	1530
c, Capacity [veh/h]	350	2110	1657	517		445	401
d1, Uniform Delay [s]	25.58	8.44	19.26	21.53		23.99	24.09
k, delay calibration	0.11	0.50	0.50	0.50		0.13	0.16
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	70.80	1.92	3.36	37.72		19.18	38.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.14	0.70	0.76	0.99		0.99	1.05
d, Delay for Lane Group [s/veh]	96.38	10.36	22.62	59.25		43.17	62.84
Lane Group LOS	F	B	C	E		D	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	11.94	5.79	5.66	12.43		8.59	10.00
50th-Percentile Queue Length [ft/ln]	298.55	144.70	141.49	310.84		214.70	250.04
95th-Percentile Queue Length [veh/ln]	18.79	9.73	9.56	18.22		13.39	15.59
95th-Percentile Queue Length [ft/ln]	469.77	243.34	239.02	455.41		334.85	389.72

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	96.38	10.36	0.00	0.00	22.62	59.25	0.00	0.00	0.00	43.17	43.17	61.72
Movement LOS	F	B			C	E				D	D	E
d_A, Approach Delay [s/veh]	28.75				33.21		0.00		52.78			
Approach LOS	C				C		A		D			
d_I, Intersection Delay [s/veh]	35.10											
Intersection LOS	D											
Intersection V/C	0.856											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	24.19	24.19
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.224	2.453
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1228	675	0	522
d_b, Bicycle Delay [s]	4.85	14.29	32.57	17.79
I_b,int, Bicycle LOS Score for Intersection	3.099	2.623	4.132	3.213
Bicycle LOS	C	B	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.764

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1162	352	397	1083	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	61	49	0	37	0	0	0	23	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	100	0	0	0	0	0	65	0	0	0
Total Hourly Volume [veh/h]	0	1223	301	397	1120	0	582	2	195	0	0	0
Peak Hour Factor	1.0000	0.9660	0.9660	0.9660	0.9660	1.0000	0.9660	0.9660	0.9660	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	317	78	103	290	0	151	1	50	0	0	0
Total Analysis Volume [veh/h]	0	1266	312	411	1159	0	602	2	202	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	22	0	22	44	0	0	21	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	65	65	65	65	65	65	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	18	18	18	40	17	17	
g / C, Green / Cycle	0.28	0.28	0.28	0.62	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.26	0.20	0.25	0.34	0.25	0.25	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1618	
c, Capacity [veh/h]	1359	424	449	2110	424	424	
d1, Uniform Delay [s]	23.00	21.43	22.86	7.29	23.59	23.77	
k, delay calibration	0.50	0.50	0.12	0.50	0.11	0.12	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	12.76	10.84	8.69	1.04	10.41	14.03	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.93	0.74	0.92	0.55	0.94	0.96	
d, Delay for Lane Group [s/veh]	35.76	32.26	31.55	8.33	34.00	37.81	
Lane Group LOS	D	C	C	A	C	D	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	7.41	5.27	6.70	3.87	6.76	7.36	
50th-Percentile Queue Length [ft/ln]	185.19	131.83	167.51	96.77	169.01	184.03	
95th-Percentile Queue Length [veh/ln]	11.87	9.04	10.95	6.97	11.02	11.81	
95th-Percentile Queue Length [ft/ln]	296.78	225.98	273.63	174.19	275.62	295.26	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	35.76	32.26	31.55	8.33	0.00	35.28	37.81	37.81	0.00	0.00	0.00
Movement LOS		D	C	C	A		D	D	D			
d_A, Approach Delay [s/veh]		35.07		14.41			35.92		0.00			
Approach LOS		D		B			D		A			
d_I, Intersection Delay [s/veh]	27.04											
Intersection LOS	C											
Intersection V/C	0.764											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	24.19	24.19
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.301	2.102
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	553	1228	522	0
d_b, Bicycle Delay [s]	17.06	4.85	17.79	32.57
I_b,int, Bicycle LOS Score for Intersection	2.483	2.855	2.997	4.132
Bicycle LOS	B	C	C	D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.552

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	1316	2	39	1056	233	177	4	16	1	2	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	110	0	0	60	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	58	0	0	4	0	0	30
Total Hourly Volume [veh/h]	1	1426	1	39	1116	175	177	4	12	1	2	88
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	365	0	10	285	45	45	1	3	0	1	22
Total Analysis Volume [veh/h]	1	1458	1	40	1141	179	181	4	12	1	2	90
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	30	0	9	30	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	37	37	43	39	39	14	14	14
g / C, Green / Cycle	0.67	0.57	0.57	0.67	0.61	0.61	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.00	0.41	0.41	0.08	0.33	0.12	0.14	0.01	0.06
s, saturation flow rate [veh/h]	556	1800	1800	505	3427	1530	1325	1590	1514
c, Capacity [veh/h]	416	991	991	373	2018	901	292	358	397
d1, Uniform Delay [s]	5.42	11.04	11.04	7.67	8.24	6.22	24.11	19.71	20.76
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	4.87	4.87	0.58	1.15	0.49	2.14	0.05	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.00	0.74	0.74	0.11	0.57	0.20	0.62	0.04	0.23
d, Delay for Lane Group [s/veh]	5.42	15.91	15.91	8.25	9.39	6.72	26.25	19.76	21.06
Lane Group LOS	A	B	B	A	A	A	C	B	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.00	7.37	7.37	0.19	3.94	0.98	2.69	0.19	1.16
50th-Percentile Queue Length [ft/ln]	0.08	184.30	184.29	4.67	98.47	24.52	67.28	4.74	29.08
95th-Percentile Queue Length [veh/ln]	0.01	11.82	11.82	0.34	7.09	1.77	4.84	0.34	2.09
95th-Percentile Queue Length [ft/ln]	0.15	295.62	295.61	8.41	177.24	44.13	121.11	8.53	52.35

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	5.42	15.91	15.91	8.25	9.39	6.72	26.25	19.76	19.76	21.06	21.06	21.06
Movement LOS	A	B	B	A	A	A	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	15.90			9.01			25.72			21.06		
Approach LOS	B			A			C			C		
d_I, Intersection Delay [s/veh]	13.66											
Intersection LOS	B											
Intersection V/C	0.552											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.12	0.00	24.12	24.12
I_p,int, Pedestrian LOS Score for Intersection	2.798	0.000	2.075	1.859
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	800	677	677
d_b, Bicycle Delay [s]	11.70	11.70	14.22	14.22
I_b,int, Bicycle LOS Score for Intersection	2.765	2.729	1.891	1.763
Bicycle LOS	C	B	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	32.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	110	0	0	60	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	7	0	0	27	0	0	31	0	0	42
Total Hourly Volume [veh/h]	82	1003	19	144	861	81	273	307	93	25	161	127
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	263	5	38	225	21	71	80	24	7	42	33
Total Analysis Volume [veh/h]	86	1050	20	151	902	85	286	321	97	26	169	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	14	34	0	21	40	0	11	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	41	41	10	45	45	17	26	26	3	11	11
g / C, Green / Cycle	0.06	0.43	0.43	0.11	0.47	0.47	0.18	0.27	0.27	0.03	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.05	0.30	0.30	0.09	0.28	0.28	0.18	0.09	0.06	0.02	0.09	0.09
s, saturation flow rate [veh/h]	1619	1800	1788	1619	1800	1746	1619	3427	1530	1619	1800	1548
c, Capacity [veh/h]	104	770	764	171	845	820	290	929	415	44	215	185
d1, Uniform Delay [s]	44.02	22.22	22.22	41.95	18.56	18.57	38.93	27.90	27.00	45.74	40.45	40.70
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.13	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.23	5.19	5.23	13.39	3.05	3.15	23.54	0.22	0.29	11.65	4.81	7.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.83	0.70	0.70	0.88	0.59	0.59	0.99	0.35	0.23	0.59	0.73	0.78
d, Delay for Lane Group [s/veh]	59.25	27.41	27.45	55.34	21.61	21.72	62.48	28.12	27.28	57.39	45.25	47.75
Lane Group LOS	E	C	C	E	C	C	E	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.42	10.45	10.39	4.09	8.42	8.20	8.43	2.93	1.73	0.75	3.81	3.61
50th-Percentile Queue Length [ft/ln]	60.57	261.30	259.85	102.29	210.55	205.03	210.67	73.17	43.20	18.67	95.19	90.23
95th-Percentile Queue Length [veh/ln]	4.36	15.75	15.68	7.36	13.18	12.90	13.19	5.27	3.11	1.34	6.85	6.50
95th-Percentile Queue Length [ft/ln]	109.02	393.85	392.04	184.12	329.53	322.45	329.68	131.71	77.76	33.60	171.35	162.41

**Movement, Approach, & Intersection Results**

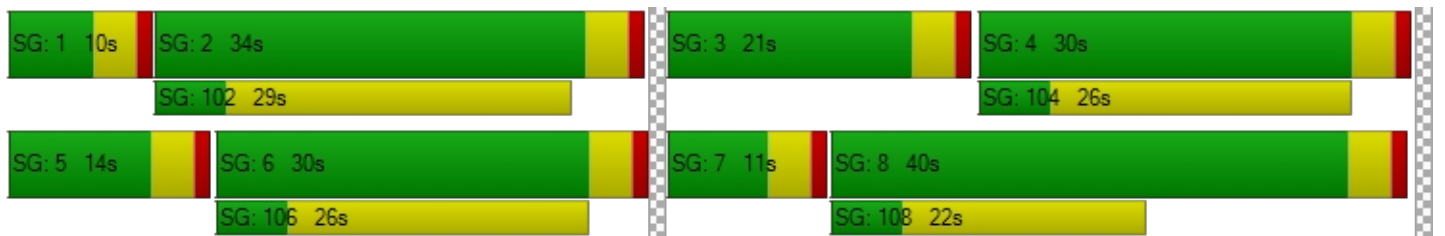
d_M, Delay for Movement [s/veh]	59.25	27.43	27.45	55.34	21.66	21.72	62.48	28.12	27.28	57.39	45.42	47.75
Movement LOS	E	C	C	E	C	C	E	C	C	E	D	D
d_A, Approach Delay [s/veh]	29.80			26.13			41.96			47.32		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	32.85											
Intersection LOS	C											
Intersection V/C	0.661											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.97	38.97	38.97	38.97
I_p,int, Pedestrian LOS Score for Intersection	2.747	2.930	2.796	2.658
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	631	757	547
d_b, Bicycle Delay [s]	25.09	22.27	18.36	25.09
I_b,int, Bicycle LOS Score for Intersection	2.519	2.521	2.166	1.865
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	18.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	110	927	32	76	759	47	75	135	93	26	112	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	80	0	0	43	17	30	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	16	0	0	23	0	0	14
Total Hourly Volume [veh/h]	110	1007	24	76	802	48	105	135	70	26	112	42
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	277	7	21	221	13	29	37	19	7	31	12
Total Analysis Volume [veh/h]	121	1109	26	84	883	53	116	149	77	29	123	46
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	18	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	29	29	4	27	27	15	15
g / C, Green / Cycle	0.09	0.48	0.48	0.07	0.46	0.46	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.32	0.32	0.05	0.26	0.26	0.22	0.12
s, saturation flow rate [veh/h]	1619	1800	1786	1619	1800	1764	1554	1673
c, Capacity [veh/h]	153	869	862	108	820	803	470	488
d1, Uniform Delay [s]	26.65	11.77	11.77	27.62	12.10	12.10	21.49	19.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.75	3.84	3.88	11.12	2.95	3.01	2.18	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.79	0.66	0.66	0.77	0.58	0.58	0.73	0.41
d, Delay for Lane Group [s/veh]	35.41	15.61	15.65	38.74	15.05	15.11	23.67	19.62
Lane Group LOS	D	B	B	D	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.97	5.71	5.68	1.46	4.64	4.57	4.48	2.12
50th-Percentile Queue Length [ft/ln]	49.34	142.72	141.91	36.51	116.12	114.16	112.03	53.06
95th-Percentile Queue Length [veh/ln]	3.55	9.63	9.58	2.63	8.18	8.07	7.95	3.82
95th-Percentile Queue Length [ft/ln]	88.81	240.68	239.60	65.72	204.48	201.77	198.82	95.51

**Movement, Approach, & Intersection Results**

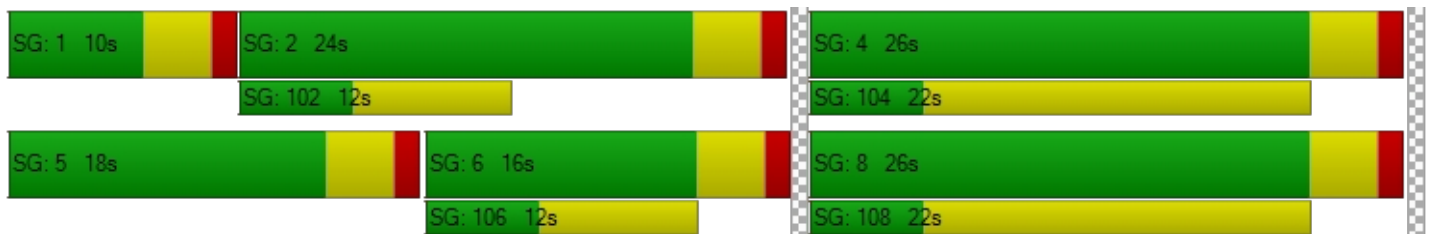
d_M, Delay for Movement [s/veh]	35.41	15.63	15.65	38.74	15.08	15.11	23.67	23.67	23.67	19.62	19.62	19.62
Movement LOS	D	B	B	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	17.53			17.03			23.67			19.62		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	18.24											
Intersection LOS	B											
Intersection V/C	0.589											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.777			2.921			2.059			2.027		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	399			666			732			732		
d_b, Bicycle Delay [s]	19.24			13.37			12.07			12.07		
I_b,int, Bicycle LOS Score for Intersection	2.602			2.414			2.162			1.909		
Bicycle LOS	B			B			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	50.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.826

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	0	0	0	0	43	80	10	64	0	6	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	23	0	0	28	0	0	19
Total Hourly Volume [veh/h]	92	898	28	101	778	67	119	99	82	45	55	57
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	238	7	27	206	18	32	26	22	12	15	15
Total Analysis Volume [veh/h]	97	951	30	107	824	71	126	105	87	48	58	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	0	9	22	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	21	21	5	22	22	22	22	22	22
g / C, Green / Cycle	0.08	0.35	0.35	0.08	0.36	0.36	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.07	0.25	0.25	1.49	0.06	0.51	0.04
s, saturation flow rate [veh/h]	1619	1800	1781	1619	1800	1750	155	1530	207	1530
c, Capacity [veh/h]	124	635	629	136	648	630	149	557	162	557
d1, Uniform Delay [s]	27.28	17.34	17.34	27.04	16.47	16.47	23.03	12.91	16.09	12.67
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.47	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.14	9.01	9.11	9.73	6.20	6.37	277.84	0.13	17.73	0.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.78	0.78	0.78	0.79	0.70	0.70	1.55	0.16	0.65	0.11
d, Delay for Lane Group [s/veh]	37.42	26.36	26.45	36.77	22.67	22.84	300.88	13.04	33.82	12.76
Lane Group LOS	D	C	C	D	C	C	F	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	1.64	6.97	6.92	1.79	5.85	5.72	13.56	0.73	1.67	0.49
50th-Percentile Queue Length [ft/ln]	41.10	174.36	172.92	44.75	146.31	143.01	338.98	18.28	41.68	12.36
95th-Percentile Queue Length [veh/ln]	2.96	11.31	11.23	3.22	9.82	9.64	23.98	1.32	3.00	0.89
95th-Percentile Queue Length [ft/ln]	73.98	282.64	280.75	80.55	245.50	241.08	599.54	32.90	75.02	22.25

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	37.42	26.40	26.45	36.77	22.75	22.84	300.88	300.88	13.04	33.82	33.82	12.76
Movement LOS	D	C	C	D	C	C	F	F	B	C	C	B
d_A, Approach Delay [s/veh]	27.39			24.25			222.13			26.21		
Approach LOS	C			C			F			C		
d_I, Intersection Delay [s/veh]	50.24											
Intersection LOS	D											
Intersection V/C	1.826											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.766	2.918	2.154	2.090
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	699	599	732	732
d_b, Bicycle Delay [s]	12.71	14.74	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.456	2.405	2.131	1.865
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.395

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	51	941	9	39	767	27	63	23	33	18	21	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	34	0	0	64	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	7	0	0	8	0	0	4
Total Hourly Volume [veh/h]	51	975	7	39	831	20	63	23	25	18	21	11
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	265	2	11	226	5	17	6	7	5	6	3
Total Analysis Volume [veh/h]	55	1059	8	42	902	22	68	25	27	20	23	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	40	3	39	39	6	6
g / C, Green / Cycle	0.05	0.67	0.67	0.04	0.66	0.66	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.30	0.30	0.03	0.26	0.26	0.07	0.03
s, saturation flow rate [veh/h]	1619	1800	1795	1619	1800	1785	1654	1753
c, Capacity [veh/h]	83	1196	1193	70	1181	1171	248	245
d1, Uniform Delay [s]	28.00	4.82	4.82	28.24	4.78	4.78	26.54	25.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.78	1.21	1.21	8.07	0.98	0.99	1.47	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.66	0.45	0.45	0.60	0.39	0.39	0.48	0.22
d, Delay for Lane Group [s/veh]	36.78	6.03	6.03	36.31	5.77	5.77	28.01	25.99
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.94	2.44	2.44	0.72	2.09	2.07	1.68	0.73
50th-Percentile Queue Length [ft/ln]	23.48	61.11	60.98	18.01	52.17	51.80	42.03	18.20
95th-Percentile Queue Length [veh/ln]	1.69	4.40	4.39	1.30	3.76	3.73	3.03	1.31
95th-Percentile Queue Length [ft/ln]	42.27	109.99	109.76	32.42	93.91	93.24	75.65	32.76

**Movement, Approach, & Intersection Results**

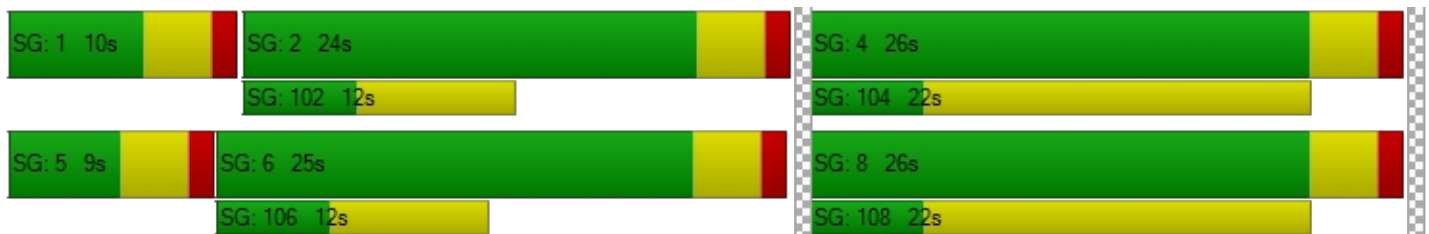
d_M, Delay for Movement [s/veh]	36.78	6.03	6.03	36.31	5.77	5.77	28.01	28.01	28.01	25.99	25.99	25.99
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.53			7.10			28.01			25.99		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.88											
Intersection LOS	A											
Intersection V/C	0.395											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.718			2.800			1.822			1.768		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			666			733			733		
d_b, Bicycle Delay [s]	12.69			13.35			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.487			2.362			1.771			1.657		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	15.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↑			↵ ↑			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	105	845	14	52	766	14	45	21	284	29	10	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	54	10	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	6	0	0	71	0	0	4
Total Hourly Volume [veh/h]	105	874	10	52	820	18	51	21	213	29	10	13
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	236	3	14	221	5	14	6	57	8	3	4
Total Analysis Volume [veh/h]	113	943	11	56	885	19	55	23	230	31	11	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	24	0	10	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	31	31	3	29	29	14	14
g / C, Green / Cycle	0.09	0.52	0.52	0.05	0.48	0.48	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.27	0.03	0.25	0.25	0.20	0.05
s, saturation flow rate [veh/h]	1619	1800	1793	1619	1800	1787	1544	1059
c, Capacity [veh/h]	146	926	922	85	858	852	431	340
d1, Uniform Delay [s]	26.77	9.66	9.66	27.96	11.01	11.01	22.01	18.26
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.44	2.06	2.07	8.24	2.33	2.34	2.22	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.77	0.52	0.52	0.66	0.53	0.53	0.71	0.16
d, Delay for Lane Group [s/veh]	35.21	11.72	11.73	36.20	13.33	13.35	24.23	18.49
Lane Group LOS	D	B	B	D	B	B	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.84	3.91	3.90	0.95	4.08	4.06	4.08	0.60
50th-Percentile Queue Length [ft/ln]	45.96	97.75	97.41	23.66	102.11	101.46	101.91	14.89
95th-Percentile Queue Length [veh/ln]	3.31	7.04	7.01	1.70	7.35	7.31	7.34	1.07
95th-Percentile Queue Length [ft/ln]	82.73	175.94	175.33	42.58	183.81	182.63	183.43	26.80



**Movement, Approach, & Intersection Results**

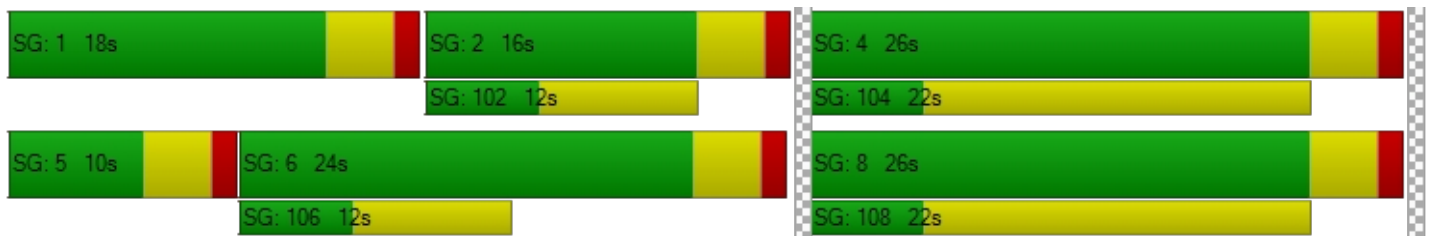
d_M, Delay for Movement [s/veh]	35.21	11.72	11.73	36.20	13.34	13.35	24.23	24.23	24.23	18.49	18.49	18.49
Movement LOS	D	B	B	D	B	B	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	14.21			14.68			24.23			18.49		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	15.79											
Intersection LOS	B											
Intersection V/C	0.521											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.777	2.754	2.054	1.776
Crosswalk LOS	C	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	666	399	732	732
d_b, Bicycle Delay [s]	13.37	19.24	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.443	2.357	2.185	1.659
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	19.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.646

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	822	124	153	826	9	13	7	5	219	9	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	54	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	31	0	0	2	0	0	1	0	0	45
Total Hourly Volume [veh/h]	9	851	93	153	880	7	13	7	4	219	9	136
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	238	26	43	246	2	4	2	1	61	3	38
Total Analysis Volume [veh/h]	10	951	104	171	983	8	15	8	4	245	10	152
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	23	0	11	20	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	24	24	7	31	31	17	17	17
g / C, Green / Cycle	0.01	0.41	0.41	0.12	0.51	0.51	0.28	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.01	0.30	0.30	0.11	0.28	0.28	0.12	0.24	0.10
s, saturation flow rate [veh/h]	1619	1800	1738	1619	1800	1795	233	1055	1530
c, Capacity [veh/h]	24	730	705	191	915	913	158	410	424
d1, Uniform Delay [s]	29.37	15.15	15.15	26.17	10.04	10.04	17.71	20.75	17.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.00	6.50	6.72	13.63	2.30	2.31	0.51	1.55	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.74	0.74	0.90	0.54	0.54	0.17	0.62	0.36
d, Delay for Lane Group [s/veh]	40.37	21.65	21.87	39.81	12.34	12.35	18.22	22.30	17.96
Lane Group LOS	D	C	C	D	B	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.21	6.70	6.52	2.99	4.23	4.22	0.27	3.26	1.61
50th-Percentile Queue Length [ft/ln]	5.25	167.58	163.01	74.69	105.75	105.50	6.84	81.61	40.18
95th-Percentile Queue Length [veh/ln]	0.38	10.95	10.71	5.38	7.60	7.59	0.49	5.88	2.89
95th-Percentile Queue Length [ft/ln]	9.46	273.73	267.71	134.45	190.07	189.73	12.31	146.90	72.32

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	40.37	21.74	21.87	39.81	12.34	12.35	18.22	18.22	18.22	22.30	22.30	17.96
Movement LOS	D	C	C	D	B	B	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	21.93			16.38			18.22			20.68		
Approach LOS	C			B			B			C		
d_I, Intersection Delay [s/veh]	19.28											
Intersection LOS	B											
Intersection V/C	0.646											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.759	1.725	2.234
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	632	533	732	732
d_b, Bicycle Delay [s]	14.05	16.17	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.464	2.520	1.606	2.305
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	44.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.776

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	39	15	0	0	0	0	0	0	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	99	0	0	6	0	0	4	0	0	137
Total Hourly Volume [veh/h]	16	346	297	573	483	17	29	50	11	229	84	409
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	95	82	158	133	5	8	14	3	63	23	113
Total Analysis Volume [veh/h]	18	381	327	631	532	19	32	55	12	252	93	450
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	53	29	0	45	21	0	0	9	0	0	27	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	26	26	40	64	64	5	5	22
g / C, Green / Cycle	0.02	0.24	0.24	0.36	0.58	0.58	0.05	0.05	0.20
(v / s)_i Volume / Saturation Flow Rate	0.01	0.11	0.20	0.35	0.15	0.01	0.02	0.04	0.19
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1842	1833
c, Capacity [veh/h]	36	864	386	657	2105	940	89	91	374
d1, Uniform Delay [s]	53.40	35.64	39.99	34.30	11.28	9.74	50.63	51.62	42.97
k, delay calibration	0.11	0.50	0.50	0.42	0.50	0.50	0.11	0.11	0.22
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.52	1.63	20.14	23.84	0.29	0.04	2.42	11.08	17.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.50	0.44	0.85	0.96	0.25	0.02	0.36	0.74	0.92
d, Delay for Lane Group [s/veh]	63.92	37.28	60.13	58.13	11.57	9.78	53.06	62.70	60.27
Lane Group LOS	E	D	E	E	B	A	D	E	E
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.60	4.54	10.52	20.42	3.17	0.20	0.91	2.10	10.91
50th-Percentile Queue Length [ft/ln]	14.92	113.48	263.02	510.56	79.35	5.02	22.80	52.44	272.82
95th-Percentile Queue Length [veh/ln]	1.07	8.03	15.84	27.83	5.71	0.36	1.64	3.78	16.33
95th-Percentile Queue Length [ft/ln]	26.86	200.83	396.00	695.84	142.84	9.04	41.04	94.38	408.26

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	63.92	37.28	60.13	58.13	11.57	9.78	53.06	62.70	62.70	60.27	60.27	0.00
Movement LOS	E	D	E	E	B	A	D	E	E	E	E	
d_A, Approach Delay [s/veh]	48.23			36.40			59.58			60.27		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	44.53											
Intersection LOS	D											
Intersection V/C	0.776											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	454			309			91			418		
d_b, Bicycle Delay [s]	32.85			39.33			50.13			34.42		
I_b,int, Bicycle LOS Score for Intersection	2.240			2.540			1.730			2.129		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.542

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	14	7	181	11	293	339	499	9	8	556	266
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	39	0	0	21	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	73	0	0	2	0	0	67
Total Hourly Volume [veh/h]	13	14	5	181	11	220	339	538	7	8	577	199
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	1	48	3	58	90	143	2	2	153	53
Total Analysis Volume [veh/h]	14	15	5	192	12	234	360	572	7	9	613	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	21	30	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	16	29	29	1	14	14
g / C, Green / Cycle	0.40	0.40	0.40	0.22	0.41	0.41	0.01	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.14	0.20	0.16	0.00	0.00	0.17	0.13
s, saturation flow rate [veh/h]	1053	1173	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	496	572	650	407	1495	667	24	730	326
d1, Uniform Delay [s]	13.54	16.00	14.64	26.31	14.34	12.12	34.31	26.90	25.70
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.27	1.74	1.55	6.54	0.16	0.01	9.51	2.70	2.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.07	0.36	0.36	0.89	0.38	0.01	0.38	0.84	0.65
d, Delay for Lane Group [s/veh]	13.81	17.73	16.19	32.85	14.50	12.13	43.83	29.61	27.87
Lane Group LOS	B	B	B	C	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.34	2.56	2.67	6.23	2.93	0.06	0.21	4.94	3.26
50th-Percentile Queue Length [ft/ln]	8.49	64.02	66.83	155.72	73.20	1.53	5.27	123.48	81.61
95th-Percentile Queue Length [veh/ln]	0.61	4.61	4.81	10.32	5.27	0.11	0.38	8.58	5.88
95th-Percentile Queue Length [ft/ln]	15.29	115.23	120.30	258.05	131.76	2.75	9.49	214.60	146.90

**Movement, Approach, & Intersection Results**

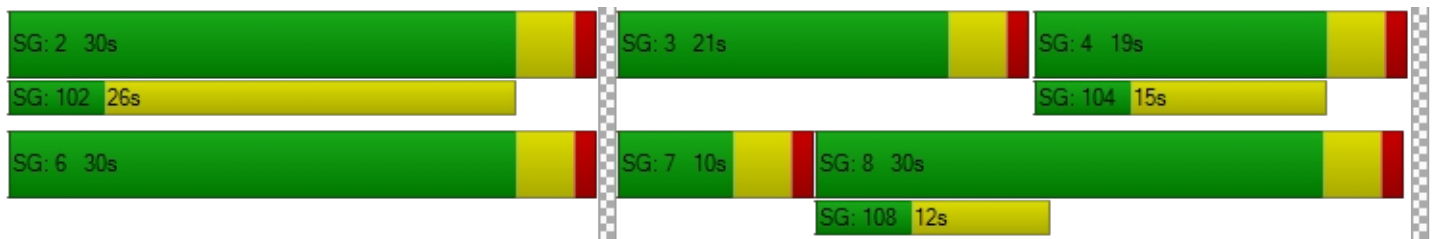
d_M, Delay for Movement [s/veh]	13.81	13.81	13.81	17.73	17.73	16.19	32.85	14.50	12.13	43.83	29.61	27.87
Movement LOS	B	B	B	B	B	B	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	13.81			16.91			21.52			29.32		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	23.40											
Intersection LOS	C											
Intersection V/C	0.542											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.61	26.61	26.61	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.739	2.411	2.769	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	742	742	742	428
d_b, Bicycle Delay [s]	13.86	13.86	13.86	21.64
I_b,int, Bicycle LOS Score for Intersection	1.619	2.403	2.336	2.302
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	35.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.714

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	21	0	0	39	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	1	0	0	65	0	0	13
Total Hourly Volume [veh/h]	58	806	61	9	730	3	7	46	196	282	69	39
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	204	15	2	185	1	2	12	50	71	17	10
Total Analysis Volume [veh/h]	59	815	62	9	738	3	7	47	198	285	70	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	46	0	10	47	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	54	54	1	51	51	15	15	19	19
g / C, Green / Cycle	0.04	0.52	0.52	0.01	0.49	0.49	0.14	0.14	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.43	0.04	0.00	0.39	0.00	0.03	0.12	0.16	0.06
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	1810	1787
c, Capacity [veh/h]	78	979	832	22	920	782	270	231	321	317
d1, Uniform Delay [s]	49.74	21.64	12.85	51.55	22.88	14.02	39.73	43.99	42.21	37.87
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.12	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.63	8.25	0.17	11.79	7.35	0.01	0.36	8.84	9.12	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.83	0.07	0.41	0.80	0.00	0.20	0.86	0.89	0.34
d, Delay for Lane Group [s/veh]	63.37	29.90	13.03	63.34	30.23	14.03	40.09	52.83	51.33	38.51
Lane Group LOS	E	C	B	E	C	B	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.82	18.28	0.76	0.31	16.53	0.04	1.26	5.56	7.96	2.51
50th-Percentile Queue Length [ft/ln]	45.60	456.93	19.11	7.67	413.22	0.96	31.43	139.05	199.04	62.73
95th-Percentile Queue Length [veh/ln]	3.28	25.29	1.38	0.55	23.20	0.07	2.26	9.43	12.59	4.52
95th-Percentile Queue Length [ft/ln]	82.08	632.22	34.41	13.80	579.91	1.73	56.58	235.74	314.73	112.92

**Movement, Approach, & Intersection Results**

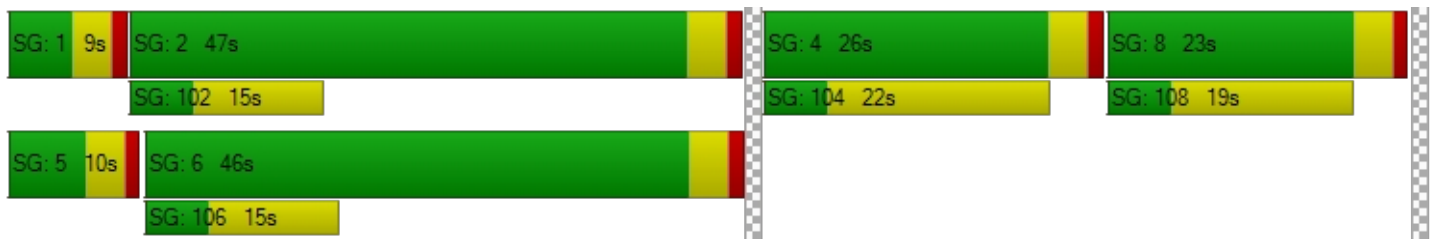
d_M, Delay for Movement [s/veh]	63.37	29.90	13.03	63.34	30.23	14.03	40.09	40.09	52.83	51.33	38.51	38.51
Movement LOS	E	C	B	E	C	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	30.89			30.56			50.10			47.78		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.71											
Intersection LOS	D											
Intersection V/C	0.714											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.92	43.92	43.92	43.92
I_p,int, Pedestrian LOS Score for Intersection	2.717	2.627	2.188	2.145
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	819	362	419
d_b, Bicycle Delay [s]	18.93	18.33	35.25	32.83
I_b,int, Bicycle LOS Score for Intersection	3.139	2.799	2.083	2.231
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.396

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵			↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	21	771	203	97	1043	0	0	12	69	193	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	21	0	0	39	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	17	0	0	11
Total Hourly Volume [veh/h]	21	792	152	97	1082	0	0	12	52	193	5	34
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	204	39	25	279	0	0	3	13	50	1	9
Total Analysis Volume [veh/h]	22	817	157	100	1117	0	0	12	54	199	5	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	23	23	12	25	0	0	9	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	39	39	5	42	42	4	4	6	6	6
g / C, Green / Cycle	0.03	0.56	0.56	0.07	0.60	0.60	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.23	0.10	0.06	0.29	0.29	0.01	0.03	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	49	2006	896	133	1143	1143	101	86	164	164	146
d1, Uniform Delay [s]	33.68	9.00	7.72	31.90	7.90	7.90	31.68	32.57	30.78	30.78	29.69
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.46	0.61	0.43	8.14	1.50	1.50	0.52	7.28	3.81	3.79	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.41	0.18	0.75	0.49	0.49	0.12	0.63	0.62	0.62	0.24
d, Delay for Lane Group [s/veh]	40.14	9.62	8.15	40.05	9.40	9.40	32.20	39.85	34.59	34.57	30.53
Lane Group LOS	D	A	A	D	A	A	C	D	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.45	3.20	1.11	1.91	4.30	4.30	0.20	1.04	1.78	1.78	0.57
50th-Percentile Queue Length [ft/ln]	11.14	80.10	27.64	47.71	107.52	107.52	5.06	26.10	44.42	44.48	14.13
95th-Percentile Queue Length [veh/ln]	0.80	5.77	1.99	3.44	7.70	7.70	0.36	1.88	3.20	3.20	1.02
95th-Percentile Queue Length [ft/ln]	20.05	144.18	49.75	85.89	192.54	192.54	9.12	46.99	79.96	80.07	25.43

**Movement, Approach, & Intersection Results**

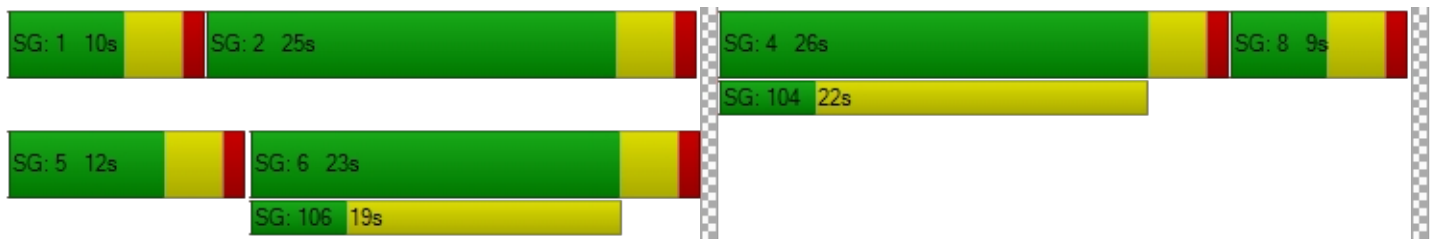
d_M, Delay for Movement [s/veh]	40.14	9.62	8.15	40.05	9.40	9.40	32.20	32.20	39.85	34.58	34.57	30.53
Movement LOS	D	A	A	D	A	A	C	C	D	C	C	C
d_A, Approach Delay [s/veh]	10.06			11.92			38.46			33.99		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	13.97											
Intersection LOS	B											
Intersection V/C	0.396											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.694			0.000			2.275		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	542			599			143			627		
d_b, Bicycle Delay [s]	18.64			17.21			30.24			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.423			2.564			1.697			1.972		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	202	284	0	0	1131	170	0	0	0	71	0	708
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	39	0	0	0	0	0	0	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	43	0	0	0	0	0	182
Total Hourly Volume [veh/h]	202	284	0	0	1170	127	0	0	0	71	0	547
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	1.0000	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	73	0	0	302	33	0	0	0	18	0	141
Total Analysis Volume [veh/h]	209	294	0	0	1210	131	0	0	0	73	0	566
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	9	48	36		4
g / C, Green / Cycle	0.14	0.81	0.60		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.33		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	259	2917	2158		110
d1, Uniform Delay [s]	24.97	1.23	7.35		27.65
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.88	0.07	1.06		6.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.81	0.10	0.56		0.66
d, Delay for Lane Group [s/veh]	30.85	1.30	8.41		34.35
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	3.12	0.08	3.79		1.18
50th-Percentile Queue Length [ft/ln]	78.10	2.04	94.75		29.47
95th-Percentile Queue Length [veh/ln]	5.62	0.15	6.82		2.12
95th-Percentile Queue Length [ft/ln]	140.58	3.67	170.54		53.05

**Movement, Approach, & Intersection Results**

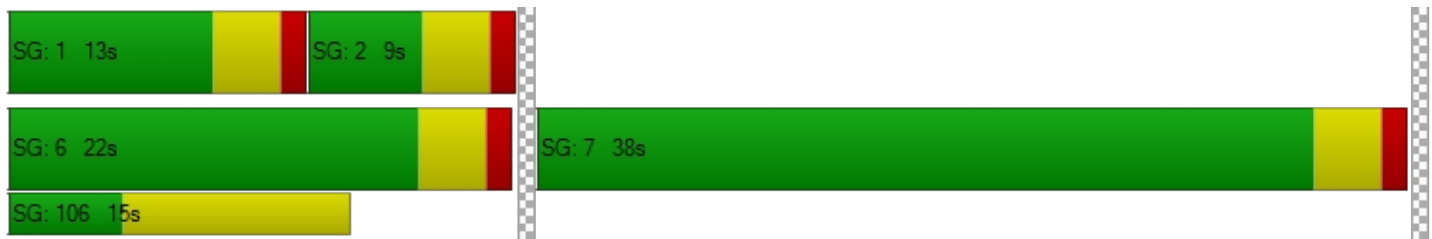
d_M, Delay for Movement [s/veh]	30.85	1.30	0.00	0.00	8.41	0.00	0.00	0.00	0.00	0.00	34.35	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	13.58				8.41				0.00		34.35		
Approach LOS	B				A				A		C		
d_I, Intersection Delay [s/veh]	10.93												
Intersection LOS	B												
Intersection V/C	0.490												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.945	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	1.975		2.558		4.132		1.560	
Bicycle LOS	A		B		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.677

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↔			↔↑↑			↔↔↔					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	456	63	512	574	0	120	0	752	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	0	0	0	188	0	0	0
Total Hourly Volume [veh/h]	0	456	47	551	574	0	120	0	564	0	0	0
Peak Hour Factor	1.0000	0.9280	0.9280	0.9280	0.9280	1.0000	0.9280	1.0000	0.9280	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	13	148	155	0	32	0	152	0	0	0
Total Analysis Volume [veh/h]	0	491	51	594	619	0	129	0	608	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	26	41	0	19	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	12	21	38	15	15	
g / C, Green / Cycle	0.20	0.35	0.62	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.33	0.17	0.07	0.21	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	732	642	2256	440	696	
d1, Uniform Delay [s]	22.14	18.64	5.14	18.54	21.87	
k, delay calibration	0.50	0.20	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	4.85	10.55	0.30	0.37	3.64	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.67	0.93	0.27	0.29	0.87	
d, Delay for Lane Group [s/veh]	27.00	29.19	5.44	18.91	25.52	
Lane Group LOS	C	C	A	B	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	3.45	8.86	1.36	1.40	4.12	
50th-Percentile Queue Length [ft/ln]	86.24	221.58	33.99	34.99	102.97	
95th-Percentile Queue Length [veh/ln]	6.21	13.75	2.45	2.52	7.41	
95th-Percentile Queue Length [ft/ln]	155.24	343.64	61.17	62.99	185.35	

**Movement, Approach, & Intersection Results**

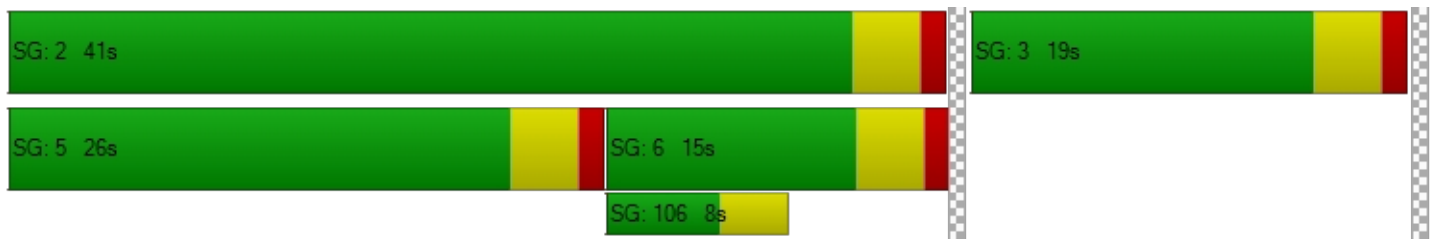
d_M, Delay for Movement [s/veh]	0.00	27.00	0.00	29.19	5.44	0.00	18.91	0.00	25.52	0.00	0.00	0.00
Movement LOS		C		C	A		B		C			
d_A, Approach Delay [s/veh]	27.00			17.07			24.36			0.00		
Approach LOS	C			B			C			A		
d_I, Intersection Delay [s/veh]	21.27											
Intersection LOS	C											
Intersection V/C	0.677											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.983		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	366			1232			499			0		
d_b, Bicycle Delay [s]	20.05			4.43			16.91			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.965			2.560			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	16	0	0	22	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	0	11	20	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	0	11	42	0	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	3	11	0	5
Total Analysis Volume [veh/h]	54	0	12	44	0	21
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.23	8.63
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.58	0.58	1.59	1.59
d_A, Approach Delay [s/veh]	0.00		1.57		8.63	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.06					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.060

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	0	20	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	51	0	0	42	0	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	0	0	11	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	54	0	0	44	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.06	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.01	9.26	8.56	9.02	9.21	8.51	7.20	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.19	0.19	0.19	0.15	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.78	4.78	4.78	3.85	3.85	3.85	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.26			9.21			2.40			2.40		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.23											
Intersection LOS	A											



**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	14	3	17	0	0	0	0	8	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	46	14	3	39	0	0	0	0	8	0	5
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	4	1	10	0	0	0	0	2	0	1
Total Analysis Volume [veh/h]	0	48	14	3	41	0	0	0	0	8	0	5
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.32	0.00	0.00	9.12	9.60	8.48	9.14	9.61	8.59
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.15	0.15	0.15	0.00	0.00	0.00	1.06	1.06	1.06
d_A, Approach Delay [s/veh]	0.00			0.50			9.06			8.93		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.16											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	434	423	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	45	25	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	479	448	0	0	10
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	126	118	0	0	3
Total Analysis Volume [veh/h]	6	504	472	0	0	10
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	8.29	0.00	0.00	0.00	0.00	11.14
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.05
95th-Percentile Queue Length [ft/ln]	0.41	0.41	0.00	0.00	0.00	1.28
d_A, Approach Delay [s/veh]	0.10		0.00		11.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.034

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	434	0	0	423	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	11	22	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	449	0	11	445	0	20
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	118	0	3	117	0	5
Total Analysis Volume [veh/h]	473	0	11	468	0	20
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	8.31	0.00	0.00	11.26
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.00	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.76	0.76	0.00	2.60
d_A, Approach Delay [s/veh]	0.00		0.19		11.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.33					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.289

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑ →			← ↑ →			↑			↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	434	0	0	423	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	16	15	0	29	3	5	0	19	28	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	1	0	0	5	0	0	0
Total Hourly Volume [veh/h]	10	450	11	0	452	2	5	0	14	28	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	118	3	0	119	1	1	0	4	7	0	0
Total Analysis Volume [veh/h]	11	474	12	0	476	2	5	0	15	29	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		0		0		0		0		0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	28	0	9	27	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	46	0	45	2	2
g / C, Green / Cycle	0.02	0.77	0.00	0.75	0.03	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.27	0.00	0.27	0.01	0.02
s, saturation flow rate [veh/h]	1714	1792	1714	1799	1756	1683
c, Capacity [veh/h]	28	1370	3	1350	135	177
d1, Uniform Delay [s]	29.31	2.29	0.00	2.55	28.38	28.55
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.10	0.72	0.00	0.73	0.50	0.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.40	0.35	0.00	0.35	0.15	0.16
d, Delay for Lane Group [s/veh]	38.41	3.01	0.00	3.28	28.88	28.98
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.21	0.50	0.00	1.09	0.29	0.41
50th-Percentile Queue Length [ft/ln]	5.30	12.46	0.00	27.21	7.17	10.30
95th-Percentile Queue Length [veh/ln]	0.38	0.90	0.00	1.96	0.52	0.74
95th-Percentile Queue Length [ft/ln]	9.54	22.44	0.00	48.98	12.91	18.54

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	38.41	3.01	3.01	0.00	3.28	3.28	28.88	28.88	28.88	28.98	28.98	28.98
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.79			3.28			28.88			28.98		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.76											
Intersection LOS	A											
Intersection V/C	0.289											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.468			2.241			1.722			1.718		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			766			632			632		
d_b, Bicycle Delay [s]	10.83			11.44			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.386			2.350			1.601			1.607		
Bicycle LOS	B			B			A			A		

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	220	101	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	10	6	66	35	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	6	286	136	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	2	75	36	2
Total Analysis Volume [veh/h]	11	11	6	301	143	6
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.59	9.14	7.50	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.46	2.46	0.31	0.31	0.00	0.00
d_A, Approach Delay [s/veh]	10.36		0.15		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.57					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	30	42	42	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	5	6	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	33	47	48	10	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	12	13	3	0
Total Analysis Volume [veh/h]	0	35	49	51	11	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.39	0.00	0.00	0.00	9.08	8.68
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.94	0.94
d_A, Approach Delay [s/veh]	0.00		0.00		9.08	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	19	0	0	21	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	6	0	19	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	6	0	40	10	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	2	0	11	3	0
Total Analysis Volume [veh/h]	31	6	0	42	11	0
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.27	0.00	8.91	8.49
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.90	0.90
d_A, Approach Delay [s/veh]	0.00		0.00		8.91	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.09					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	19	0	0	21	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	2	0	29	0	0	0	0	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	35	2	0	50	0	0	0	0	4	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	1	0	13	0	0	0	0	1	0	0
Total Analysis Volume [veh/h]	0	37	2	0	53	0	0	0	0	4	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.30	0.00	0.00	7.27	0.00	0.00	9.01	9.49	8.53	9.03	9.50	8.48
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.34	0.34
d_A, Approach Delay [s/veh]	0.00			0.00			9.01			9.03		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.38											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	229	102	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	0	0	108	58	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	0	337	160	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	89	42	1
Total Analysis Volume [veh/h]	11	0	0	355	168	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.83	8.85	7.54	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.34	1.34	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.83		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	0	0	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	112	103	0	0	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	29	27	0	0	5
Total Analysis Volume [veh/h]	12	118	108	0	0	21
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.43	0.00	0.00	0.00	9.97	8.87
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.61	0.61	0.00	0.00	1.69	1.69
d_A, Approach Delay [s/veh]	0.69		0.00		8.87	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.06					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	11	20	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	123	123	0	0	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	32	32	0	0	4
Total Analysis Volume [veh/h]	9	129	129	0	0	17
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.47	0.00	0.00	0.00	10.12	8.96
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.46	0.46	0.00	0.00	1.40	1.40
d_A, Approach Delay [s/veh]	0.49		0.00		8.96	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.77					
Intersection LOS	A					

Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 8 Existing PM + P

Report File: C:\...\ID Existing PM + P.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	525	1191	571	592	957	882	976	553	479	605	7331

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	166	1333	183	675	1156	134	308	523	80	181	307	707	5753

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1640	13	48	1382	9	51	3143

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	163	1298	43	143	1127	97	155	135	124	99	118	169	3671

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	37	9	26	25	7	9	11	384	26	20	349	17	920

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	124	279	76	17	228	10	8	256	176	45	226	29	1474

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	358	160	125	336	50	81	1110

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	31	8	11	13	16	21	16	299	24	13	266	22	740

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	46	8	10	285	134	27	510

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	13	31	10	74	50	15	29	298	20	8	155	72	775

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	372	1367	1175	637	373	5	566	4495

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1223	401	397	1120	582	2	260	3985

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	1	1426	2	39	1116	233	177	4	16	1	2	118	3135

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	82	1003	26	144	861	108	273	307	124	25	161	169	3283

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	110	1007	32	76	802	64	105	135	93	26	112	56	2618

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	92	898	37	101	778	90	119	99	110	45	55	76	2500

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	51	975	9	39	831	27	63	23	33	18	21	15	2105

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	105	874	14	52	820	24	51	21	284	29	10	17	2301

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	851	124	153	880	9	13	7	5	219	9	181	2460

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	16	346	396	573	483	23	29	50	15	229	84	546	2790

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	14	7	181	11	293	339	538	9	8	577	266	2256

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	58	806	82	9	730	4	7	46	261	282	69	52	2406

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	21	792	203	97	1082	0	0	12	69	193	5	45	2519

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	202	284	1170	170	71	729	2626

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	456	63	551	574	120	752	2516

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	51	0	11	42	0	20	124

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	51	0	0	42	0	0	0	0	0	0	0	93

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	46	14	3	39	0	0	0	0	8	0	5	115

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	6	479	448	0	10	943	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	449	0	11	445	20	925	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	10	450	15	0	452	3	5	0	19	28	0	0	982

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	10	10	6	286	136	6	454

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	33	47	48	10	0	138

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	29	6	0	40	10	0	85

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	35	2	0	50	0	0	0	0	4	0	0	91

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	10	0	0	337	160	5	512

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	11	112	103	0	0	20	246

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	9	123	123	0	0	16	271

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**Option 1: SP Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Total Analysis Volume [veh/h]	144	296	86	18	237	10	8	282	186	48	251	30

**Intersection Settings**

**Lanes**




Capacity per Entry Lane [veh/h]	404	438	399	417	448	413
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	16.46	45.96	28.19	22.19	19.53	38.31
95th-Percentile Queue Length [veh]	1.58	8.99	4.65	3.45	3.05	7.05
95th-Percentile Queue Length [ft]	39.58	224.67	116.27	86.36	76.34	176.26
Approach Delay [s/veh]	37.88		28.19	20.86		38.31
Approach LOS	E		D	C		E
Intersection Delay [s/veh]	31.29					
Intersection LOS	D					

Version 2021 (SP 0-2)

**Option 1: SP Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	352	154	59	326	40	46
Total Analysis Volume [veh/h]	387	130	195	370	61	77

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	44	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.76	0.76	0.11
(v / s)_i Volume / Saturation Flow Rate	0.30	0.46	0.09
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1724	1216	1606
c, Capacity [veh/h]	1300	998	180
X, volume / capacity	0.40	0.57	0.77
d, Delay for Lane Group [s/veh]	3.49	6.49	32.51
Lane Group LOS	A	A	C



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Critical Lane Group	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.71	2.12	2.13
50th-Percentile Queue Length [ft/ln]	17.66	52.93	53.34
95th-Percentile Queue Length [veh/ln]	1.27	3.81	3.84
95th-Percentile Queue Length [ft/ln]	31.78	95.27	96.02

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.49	3.49	6.49	6.49	32.51	32.51
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	3.49		6.49		32.51	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	8.16					
Intersection LOS	A					
Intersection V/C	0.551					

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Option 1: SP EB Left Lane

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Total Analysis Volume [veh/h]	111	951	30	107	824	85	197	112	123	48	59	60

Intersection Settings

Cycle Length [s]	65											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	20	0	19	24	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.09	0.44	0.44	0.08	0.44	0.44	0.29	0.29	0.29	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.07	0.27	0.27	0.07	0.26	0.26	0.14	0.06	0.08	0.08	0.08	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1800	1781	1619	1800	1742	1365	1800	1530	1363	1530	1530
c, Capacity [veh/h]	142	796	787	138	791	766	348	519	441	473	441	441
X, volume / capacity	0.78	0.62	0.62	0.78	0.58	0.58	0.57	0.22	0.28	0.23	0.14	0.14
d, Delay for Lane Group [s/veh]	38.09	17.57	17.62	38.15	16.90	17.01	27.44	17.79	18.27	18.15	17.30	17.30
Lane Group LOS	D	B	B	D	B	B	C	B	B	B	B	B

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	1.98	5.70	5.65	1.91	5.20	5.06	2.91	1.22	1.37	1.16	0.64
50th-Percentile Queue Length [ft/ln]	49.44	142.49	141.20	47.73	130.09	126.43	72.71	30.44	34.30	29.08	15.95
95th-Percentile Queue Length [veh/ln]	3.56	9.61	9.55	3.44	8.94	8.75	5.24	2.19	2.47	2.09	1.15
95th-Percentile Queue Length [ft/ln]	89.00	240.37	238.64	85.91	223.62	218.64	130.88	54.80	61.75	52.34	28.72

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	38.09	17.59	17.62	38.15	16.95	17.01	27.44	17.79	18.27	18.15	18.15	17.30
Movement LOS	D	B	B	D	B	B	C	B	B	B	B	B
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	19.68			19.19			22.33			17.84		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	19.80											
Intersection LOS	B											
Intersection V/C	0.484											

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**Option 2: OY 1 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Total Analysis Volume [veh/h]	121	286	76	18	234	10	8	256	177	45	225	30

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	424	460	424	439	474	433
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	14.55	33.76	24.21	18.91	16.77	28.13
95th-Percentile Queue Length [veh]	1.16	7.03	4.04	2.75	2.43	5.18
95th-Percentile Queue Length [ft]	29.06	175.83	100.88	68.82	60.74	129.40
Approach Delay [s/veh]	28.94		24.21	17.84		28.13
Approach LOS	D		C	C		D
Intersection Delay [s/veh]	24.65					
Intersection LOS	C					

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**Option 2: OY 1 Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	352	154	59	326	40	46
Total Analysis Volume [veh/h]	384	127	121	360	52	57

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	44	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.78	0.78	0.09
(v / s)_i Volume / Saturation Flow Rate	0.30	0.34	0.07
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1724	1403	1613
c, Capacity [veh/h]	1341	1166	144
X, volume / capacity	0.38	0.41	0.76
d, Delay for Lane Group [s/veh]	2.94	3.20	34.53
Lane Group LOS	A	A	C

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Critical Lane Group	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.40	0.89	1.75
50th-Percentile Queue Length [ft/ln]	9.96	22.27	43.84
95th-Percentile Queue Length [veh/ln]	0.72	1.60	3.16
95th-Percentile Queue Length [ft/ln]	17.93	40.08	78.91

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	2.94	2.94	3.20	3.20	34.53	34.53
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	2.94		3.20		34.53	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.18					
Intersection LOS	A					
Intersection V/C	0.410					

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**Option 2: OY 1 EB Left Lane**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Total Analysis Volume [veh/h]	87	951	30	107	824	61	109	102	74	48	56	60

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	19	0	15	19	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.07	0.46	0.46	0.08	0.48	0.48	0.26	0.26	0.26	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.27	0.07	0.25	0.25	0.08	0.06	0.05	0.08	0.04	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1800	1781	1619	1800	1757	1369	1800	1530	1296	1530	1530
c, Capacity [veh/h]	109	827	818	134	856	835	278	464	394	422	394	394
X, volume / capacity	0.80	0.60	0.60	0.80	0.52	0.52	0.39	0.22	0.19	0.25	0.15	0.15
d, Delay for Lane Group [s/veh]	40.28	15.24	15.27	37.22	13.28	13.34	26.43	17.77	17.60	18.27	17.39	17.39
Lane Group LOS	D	B	B	D	B	B	C	B	B	B	B	B

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	1.55	4.88	4.84	1.80	4.03	3.95	1.48	1.06	0.76	1.08	0.61
50th-Percentile Queue Length [ft/ln]	38.67	122.01	120.91	45.04	100.80	98.71	36.90	26.44	19.09	27.09	15.31
95th-Percentile Queue Length [veh/ln]	2.78	8.50	8.44	3.24	7.26	7.11	2.66	1.90	1.37	1.95	1.10
95th-Percentile Queue Length [ft/ln]	69.61	212.58	211.07	81.08	181.45	177.67	66.41	47.58	34.36	48.77	27.56

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	40.28	15.25	15.27	37.22	13.31	13.34	26.43	17.77	17.60	18.27	18.27	17.39
Movement LOS	D	B	B	D	B	B	C	B	B	B	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	17.29			15.89			21.04			17.95		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	17.20											
Intersection LOS	B											
Intersection V/C	0.420											



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**Option 3: OY 2 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Total Analysis Volume [veh/h]	128	289	79	18	236	10	8	265	182	47	234	30

**Intersection Settings**

**Lanes**




Capacity per Entry Lane [veh/h]	416	451	415	431	464	425
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	15.15	37.39	25.69	20.05	17.71	31.36
95th-Percentile Queue Length [veh]	1.29	7.65	4.28	3.01	2.65	5.82
95th-Percentile Queue Length [ft]	32.17	191.20	107.05	75.13	66.29	145.49
Approach Delay [s/veh]	31.65		25.69	18.88		31.36
Approach LOS	D		D	C		D
Intersection Delay [s/veh]	26.75					
Intersection LOS	D					

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**Option 3: OY 2 Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	352	154	59	326	40	46
Total Analysis Volume [veh/h]	386	129	135	362	54	66

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	44	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.77	0.77	0.10
(v / s)_i Volume / Saturation Flow Rate	0.30	0.37	0.07
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1724	1352	1608
c, Capacity [veh/h]	1325	1115	158
X, volume / capacity	0.39	0.45	0.76
d, Delay for Lane Group [s/veh]	3.16	3.67	33.68
Lane Group LOS	A	A	C

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Critical Lane Group	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.52	1.15	1.90
50th-Percentile Queue Length [ft/ln]	12.98	28.77	47.46
95th-Percentile Queue Length [veh/ln]	0.93	2.07	3.42
95th-Percentile Queue Length [ft/ln]	23.37	51.79	85.42

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.16	3.16	3.67	3.67	33.68	33.68
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	3.16		3.67		33.68	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	6.62					
Intersection LOS	A					
Intersection V/C	0.442					

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**Option 3: OY 2 EB Left Turn**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Total Analysis Volume [veh/h]	97	951	30	107	824	71	126	105	87	48	58	60

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	19	0	15	19	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.07	0.45	0.45	0.08	0.46	0.46	0.27	0.27	0.27	0.27	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.07	0.25	0.25	0.09	0.06	0.06	0.08	0.04	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1800	1781	1619	1800	1750	1366	1800	1530	1317	1530	1530
c, Capacity [veh/h]	122	810	801	134	824	801	295	481	409	439	409	409
X, volume / capacity	0.80	0.61	0.61	0.80	0.55	0.55	0.43	0.22	0.21	0.24	0.15	0.15
d, Delay for Lane Group [s/veh]	38.56	15.91	15.95	37.22	14.45	14.52	26.09	17.33	17.34	17.74	16.93	16.93
Lane Group LOS	D	B	B	D	B	B	C	B	B	B	B	B

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Critical Lane Group	NO	NO	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	1.67	5.03	4.99	1.80	4.34	4.23	1.70	1.07	0.89	1.09	0.60
50th-Percentile Queue Length [ft/ln]	41.83	125.77	124.64	45.04	108.41	105.83	42.43	26.77	22.25	27.14	15.04
95th-Percentile Queue Length [veh/ln]	3.01	8.71	8.65	3.24	7.75	7.61	3.06	1.93	1.60	1.95	1.08
95th-Percentile Queue Length [ft/ln]	75.30	217.72	216.19	81.08	193.79	190.19	76.38	48.19	40.05	48.85	27.06

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	38.56	15.93	15.95	37.22	14.48	14.52	26.09	17.33	17.34	17.74	17.74	16.93
Movement LOS	D	B	B	D	B	B	C	B	B	B	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	17.97			16.91			20.80			17.45		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	17.87											
Intersection LOS	B											
Intersection V/C	0.432											

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## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 9 OY AM + P

Report File: C:\...\OY AM + P.pdf

7/12/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.673	36.4	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.555	32.7	C
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.352	4.4	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.444	19.7	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.540	11.7	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.585	16.3	C
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.728	76.7	F
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.039	13.3	B
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.200	19.8	C
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	WB Thru	0.932	28.5	D
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	1.166	89.4	F
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.930	60.9	E
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.652	10.2	B
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	SB Right	0.906	75.0	E
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.624	15.9	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	SB Right	4.455	222.7	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.449	8.9	A
			HCM 6th				



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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	NB Left	0.501	11.5	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	SB Left	0.787	38.8	D
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	WB Left	0.935	75.0	E
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.831	34.5	C
22	Market St/24th St	Signalized	HCM 6th Edition	SB Left	0.790	29.3	C
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.525	12.5	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.456	10.7	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.670	24.1	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.004	8.5	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	SB Thru	0.079	9.4	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.031	9.3	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.006	10.2	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.011	10.2	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.230	6.0	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.009	13.5	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.004	9.0	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.004	8.8	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.009	9.0	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.012	13.8	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.008	8.5	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.006	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	36.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.673

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	615	801	308	563	657	1094	1048	0	519	375	0	691
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	50	22	14	0	78	0	0	0	157	44	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	82	0	0	279	0	0	172	0	0	176
Total Hourly Volume [veh/h]	677	839	246	574	748	837	1069	0	514	427	0	529
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	1.0000	0.9530	0.9530	1.0000	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	178	220	65	151	196	220	280	0	135	112	0	139
Total Analysis Volume [veh/h]	710	880	258	602	785	878	1122	0	539	448	0	555
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	38	21	35	38	38
g / C, Green / Cycle	0.22	0.35	0.19	0.32	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.20	0.17	0.17	0.15	0.32	0.13
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	776	1811	682	1672	1219	1219
d1, Uniform Delay [s]	41.79	27.97	43.06	29.68	34.43	26.86
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.78	0.94	3.99	0.95	3.38	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.91	0.49	0.88	0.47	0.92	0.37
d, Delay for Lane Group [s/veh]	46.57	28.91	47.05	30.62	37.81	27.05
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	9.61	6.00	8.19	5.57	13.31	4.00
50th-Percentile Queue Length [ft/ln]	240.35	149.94	204.70	139.19	332.76	99.99
95th-Percentile Queue Length [veh/ln]	14.70	10.01	12.88	9.44	19.29	7.20
95th-Percentile Queue Length [ft/ln]	367.48	250.34	322.02	235.94	482.34	179.98

**Movement, Approach, & Intersection Results**

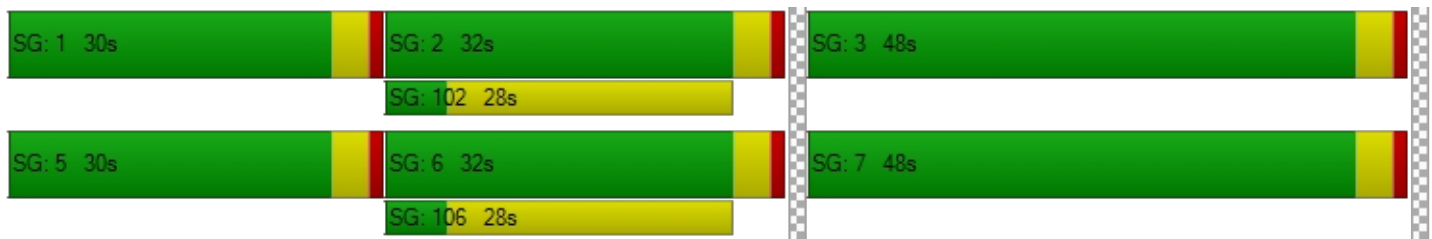
d_M, Delay for Movement [s/veh]	46.57	28.91	0.00	47.05	30.62	0.00	37.81	0.00	0.00	27.05	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	36.80			37.75			37.81			27.05		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	36.38											
Intersection LOS	D											
Intersection V/C	0.673											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			46.34			46.34		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.109			2.834		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	509			509			800			800		
d_b, Bicycle Delay [s]	30.53			30.53			19.77			19.77		
I_b,int, Bicycle LOS Score for Intersection	2.434			2.322			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	32.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	146	1235	88	550	875	156	190	194	58	49	243	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	46	6	97	172	11	3	19	2	3	12	37
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	24	0	0	43	0	0	15	0	0	99
Total Hourly Volume [veh/h]	149	1306	72	658	1065	127	197	217	46	53	260	295
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	349	19	176	285	34	53	58	12	14	70	79
Total Analysis Volume [veh/h]	159	1397	77	704	1139	136	211	232	49	57	278	316
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	19	40	0	35	56	0	15	45	0	10	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	62	62	29	83	83	10	18	18	4	13	46
g / C, Green / Cycle	0.06	0.48	0.48	0.22	0.64	0.64	0.08	0.14	0.14	0.03	0.10	0.35
(v / s)_i Volume / Saturation Flow Rate	0.05	0.21	0.21	0.20	0.23	0.24	0.06	0.06	0.03	0.02	0.08	0.11
s, saturation flow rate [veh/h]	3514	5176	1835	3514	3618	1799	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	217	2485	881	775	2311	1149	265	513	229	121	365	1007
d1, Uniform Delay [s]	59.94	22.25	22.26	49.38	11.08	11.10	59.12	51.15	49.37	61.62	56.94	30.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.71	0.56	1.58	4.47	0.45	0.92	5.40	0.62	0.46	2.85	3.32	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.73	0.44	0.44	0.91	0.37	0.37	0.80	0.45	0.21	0.47	0.76	0.31
d, Delay for Lane Group [s/veh]	64.65	22.81	23.84	53.85	11.53	12.02	64.52	51.77	49.83	64.48	60.26	30.85
Lane Group LOS	E	C	C	D	B	B	E	D	D	E	E	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.65	7.00	7.71	11.40	5.52	5.68	3.55	3.44	1.42	0.95	4.49	3.51
50th-Percentile Queue Length [ft/ln]	66.21	175.05	192.68	285.07	138.00	142.12	88.68	86.09	35.38	23.72	112.19	87.71
95th-Percentile Queue Length [veh/ln]	4.77	11.34	12.26	16.94	9.37	9.60	6.38	6.20	2.55	1.71	7.96	6.31
95th-Percentile Queue Length [ft/ln]	119.18	283.54	306.51	423.52	234.33	239.88	159.62	154.96	63.68	42.69	199.05	157.87

**Movement, Approach, & Intersection Results**

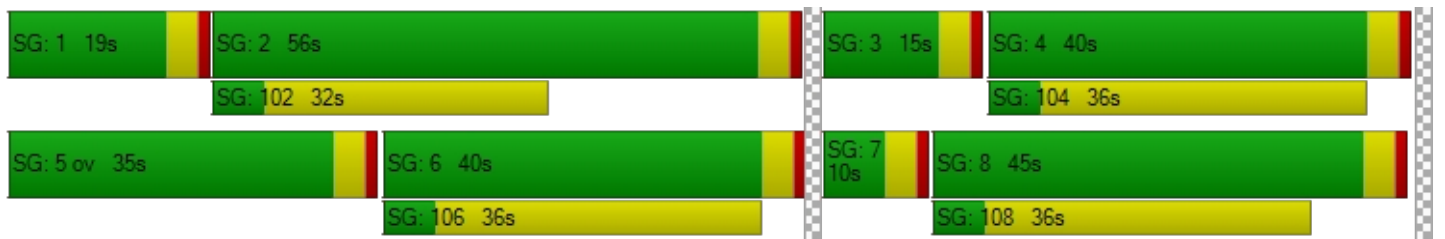
d_M, Delay for Movement [s/veh]	64.65	23.04	23.84	53.85	11.65	12.02	64.52	51.77	49.83	64.48	60.26	30.85
Movement LOS	E	C	C	D	B	B	E	D	D	E	E	C
d_A, Approach Delay [s/veh]	27.13			26.69			57.04			46.36		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	32.67											
Intersection LOS	C											
Intersection V/C	0.555											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.429	3.514	2.971	3.332
Crosswalk LOS	C	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	800	631	554
d_b, Bicycle Delay [s]	33.99	23.40	30.47	33.99
I_b,int, Bicycle LOS Score for Intersection	2.243	2.672	1.978	2.178
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1408	23	56	888	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	0	0	177	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1488	17	57	1083	10	48
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	392	4	15	285	3	13
Total Analysis Volume [veh/h]	1568	18	60	1141	11	51
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Version 2021 (SP 0-2)

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	32	38	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	51	4	58	4	4
g / C, Green / Cycle	0.73	0.73	0.05	0.83	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.30	0.01	0.02	0.22	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3759	1173	179	4317	94	84
d1, Uniform Delay [s]	3.77	2.66	32.13	1.24	31.72	32.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.02	1.09	0.15	0.55	7.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.42	0.02	0.34	0.26	0.12	0.61
d, Delay for Lane Group [s/veh]	4.11	2.68	33.23	1.39	32.27	39.57
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.25	0.04	0.50	0.22	0.19	0.98
50th-Percentile Queue Length [ft/ln]	31.20	0.88	12.59	5.51	4.67	24.59
95th-Percentile Queue Length [veh/ln]	2.25	0.06	0.91	0.40	0.34	1.77
95th-Percentile Queue Length [ft/ln]	56.16	1.58	22.65	9.91	8.41	44.26



**Movement, Approach, & Intersection Results**

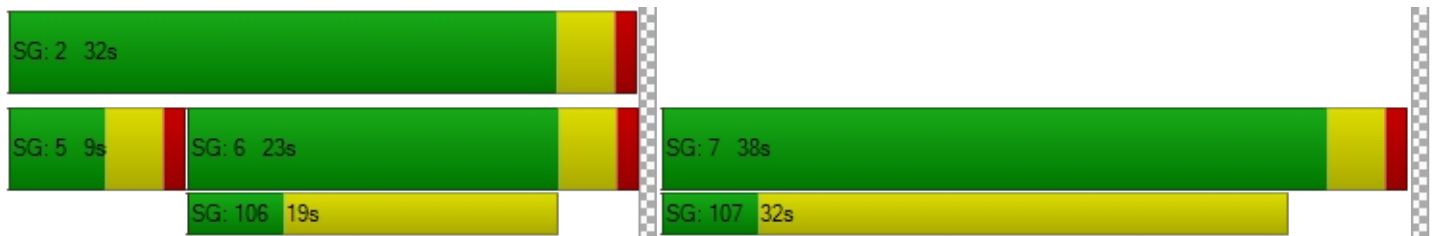
d_M, Delay for Movement [s/veh]	4.11	2.68	33.23	1.39	32.27	39.57
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	4.10		2.98		38.28	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.37					
Intersection LOS	A					
Intersection V/C	0.352					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.060	2.182
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	542	799	971
d_b, Bicycle Delay [s]	18.61	12.63	9.28
I_b,int, Bicycle LOS Score for Intersection	2.435	2.220	1.560
Bicycle LOS	B	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	19.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1235	35	56	761	65	99	59	41	48	75	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	115	43	19	6	10	0	0	18	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	21	0	0	0	0	0	30
Total Hourly Volume [veh/h]	137	1278	36	172	819	64	107	70	42	49	95	90
Peak Hour Factor	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	342	10	46	219	17	29	19	11	13	25	24
Total Analysis Volume [veh/h]	147	1370	39	184	878	69	115	75	45	53	102	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	54	54	5	54	54	7	11	11	4	8	8
g / C, Green / Cycle	0.06	0.60	0.60	0.06	0.60	0.60	0.08	0.12	0.12	0.04	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.02	0.05	0.18	0.18	0.06	0.02	0.03	0.03	0.03	0.06
s, saturation flow rate [veh/h]	3459	5094	1589	3514	3560	1801	1810	3618	1589	1781	3618	1615
c, Capacity [veh/h]	196	3052	952	199	2133	1079	147	451	198	75	309	138
d1, Uniform Delay [s]	41.92	9.91	7.43	42.35	8.80	8.80	40.62	35.27	35.55	42.64	38.81	40.10
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.73	0.48	0.08	16.45	0.35	0.70	8.60	0.17	0.57	11.50	0.62	6.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.45	0.04	0.93	0.29	0.30	0.78	0.17	0.23	0.71	0.33	0.70
d, Delay for Lane Group [s/veh]	47.65	10.39	7.51	58.80	9.15	9.50	49.22	35.44	36.12	54.14	39.43	46.29
Lane Group LOS	D	B	A	E	A	A	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.75	4.58	0.31	2.47	2.82	2.96	2.82	0.74	0.91	1.39	1.08	2.28
50th-Percentile Queue Length [ft/ln]	43.69	114.40	7.64	61.68	70.42	73.99	70.57	18.49	22.83	34.81	26.93	57.00
95th-Percentile Queue Length [veh/ln]	3.15	8.08	0.55	4.44	5.07	5.33	5.08	1.33	1.64	2.51	1.94	4.10
95th-Percentile Queue Length [ft/ln]	78.64	202.11	13.75	111.02	126.76	133.19	127.02	33.28	41.09	62.65	48.47	102.61

**Movement, Approach, & Intersection Results**

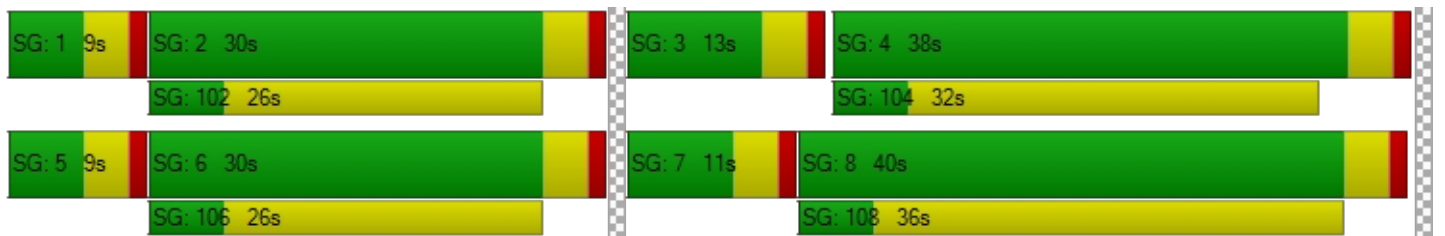
d_M, Delay for Movement [s/veh]	47.65	10.39	7.51	58.80	9.25	9.50	49.22	35.44	36.12	54.14	39.43	46.29
Movement LOS	D	B	A	E	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	13.84			17.32			42.31			45.16		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	19.67											
Intersection LOS	B											
Intersection V/C	0.444											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.125	3.094	2.548	2.591
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	799	755
d_b, Bicycle Delay [s]	22.80	22.80	16.24	17.46
I_b,int, Bicycle LOS Score for Intersection	2.415	2.193	1.753	1.791
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	5	3	3	11	0	10	9	177	3	8	203	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	0	8	0	0	0	0	128	57	31	50	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	3	11	11	0	10	9	309	60	39	257	10
Peak Hour Factor	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	1	3	3	0	3	3	90	18	11	75	3
Total Analysis Volume [veh/h]	22	4	13	13	0	12	11	362	70	46	301	12
Pedestrian Volume [ped/h]	0			0			0			0		

Version 2021 (SP 0-2)

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	640	648	820	790
Degree of Utilization, x	0.06	0.04	0.54	0.45

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.19	0.12	3.30	2.40
95th-Percentile Queue Length [ft]	4.85	3.01	82.42	59.92
Approach Delay [s/veh]	8.99	8.78	12.43	11.31
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	11.71			
Intersection LOS	B			



**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.585

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	20	4	0	67	0	0	74	61	0	65	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	188	35	6	142	5	5	157	136	62	196	19
Peak Hour Factor	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	53	10	2	40	1	1	44	38	17	55	5
Total Analysis Volume [veh/h]	85	210	39	7	159	6	6	176	152	69	219	21
Pedestrian Volume [ped/h]	0			0			0			0		

Version 2021 (SP 0-2)

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	571	534	600	571
Degree of Utilization, x	0.58	0.32	0.56	0.54

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.75	1.38	3.42	3.22
95th-Percentile Queue Length [ft]	93.78	34.51	85.40	80.49
Approach Delay [s/veh]	17.80	12.89	16.27	16.48
Approach LOS	C	B	C	C
Intersection Delay [s/veh]	16.26			
Intersection LOS	C			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	76.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	208	39	22	177	37	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	2.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	39	74	32	77	202	143
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	251	114	54	258	240	181
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	31	15	71	66	50
Total Analysis Volume [veh/h]	276	125	59	283	263	199
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.73	0.28
d_M, Delay for Movement [s/veh]	0.00	0.00	8.24	0.00	76.69	71.81
Movement LOS	A	A	A	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.16	0.16	13.41	13.41
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.98	3.98	335.36	335.36
d_A, Approach Delay [s/veh]	0.00		1.42		74.59	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	29.00					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	8	10	6	12	26	5	110	6	8	172	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	10	0	6	2	45	31	0	51	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	8	10	16	12	33	7	157	37	8	226	18
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	2	3	4	3	9	2	41	10	2	59	5
Total Analysis Volume [veh/h]	18	8	10	17	13	34	7	164	39	8	236	19
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.02	0.01	0.03	0.03	0.04	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	13.27	12.84	9.65	13.00	13.13	10.19	7.74	0.00	0.00	7.62	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.21	0.21	0.21	0.35	0.35	0.35	0.02	0.02	0.02	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	5.36	5.36	5.36	8.67	8.67	8.67	0.40	0.40	0.40	0.44	0.44	0.44
d_A, Approach Delay [s/veh]	12.17			11.53			0.26			0.23		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.25											
Intersection LOS	B											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.200

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	26	4	1	61	76	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	94	357	58
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	4	1	156	435	64
Peak Hour Factor	0.6840	0.6840	0.6840	0.6840	0.6840	0.6840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	1	0	57	159	23
Total Analysis Volume [veh/h]	61	6	1	228	636	94
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.20	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	19.84	16.02	9.08	0.00	0.00	0.00
Movement LOS	C	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.79	0.79	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	19.77	19.77	0.09	0.09	0.00	0.00
d_A, Approach Delay [s/veh]	19.50		0.04		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.28					
Intersection LOS	C					



**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	28.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.932

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	14	0	0	0	113	0	0	433	57
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	39	5	28	18	13	1	186	6	3	499	74
Peak Hour Factor	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	12	2	9	6	4	0	59	2	1	159	24
Total Analysis Volume [veh/h]	6	50	6	36	23	17	1	238	8	4	637	95
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	567	571	630	719	688	795
Degree of Utilization, x	0.11	0.13	0.38	0.01	0.93	0.12

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.37	0.46	1.77	0.03	12.86	0.41
95th-Percentile Queue Length [ft]	9.15	11.43	44.24	0.84	321.52	10.13
Approach Delay [s/veh]	10.12	10.27	11.73		37.56	
Approach LOS	B	B	B		E	
Intersection Delay [s/veh]	28.50					
Intersection LOS	D					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	89.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.166

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	77	37	0	0	111	0	0	0	0	232	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	258	0	0	0	0	0	124
Total Hourly Volume [veh/h]	456	1218	0	0	1361	774	0	0	0	578	5	372
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	118	315	0	0	352	200	0	0	0	149	1	96
Total Analysis Volume [veh/h]	472	1260	0	0	1407	800	0	0	0	598	5	385
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	30	85	0	0	55	0	0	0	0	0	40	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	125	125	125	125		125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	26	81	51	51		36	36
g / C, Green / Cycle	0.21	0.65	0.41	0.41		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.29	0.39	0.29	0.52		0.35	0.25
s, saturation flow rate [veh/h]	1619	3237	4903	1530		1715	1530
c, Capacity [veh/h]	337	2097	1999	624		494	441
d1, Uniform Delay [s]	49.45	12.67	30.73	36.99		44.47	42.31
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.36
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	196.95	1.28	2.11	139.13		116.60	16.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.40	0.60	0.70	1.28		1.22	0.87
d, Delay for Lane Group [s/veh]	246.40	13.96	32.84	176.13		161.07	58.38
Lane Group LOS	F	B	C	F		F	E
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	28.93	10.00	12.01	42.71		31.14	13.20
50th-Percentile Queue Length [ft/ln]	723.16	250.06	300.30	1067.83		778.44	329.93
95th-Percentile Queue Length [veh/ln]	44.16	15.19	17.70	62.70		45.27	19.15
95th-Percentile Queue Length [ft/ln]	1103.88	379.72	442.40	1567.47		1131.80	478.87

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	246.40	13.96	0.00	0.00	32.84	176.13	0.00	0.00	0.00	161.07	161.07	58.38
Movement LOS	F	B			C	F				F	F	E
d_A, Approach Delay [s/veh]	77.30			84.78			0.00			121.05		
Approach LOS	E			F			A			F		
d_I, Intersection Delay [s/veh]	89.42											
Intersection LOS	F											
Intersection V/C	1.166											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	53.80	53.80
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.480	2.495
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1296	816	0	576
d_b, Bicycle Delay [s]	7.73	21.89	62.48	31.66
I_b,int, Bicycle LOS Score for Intersection	2.989	2.915	4.132	3.394
Bicycle LOS	C	C	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	60.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	1001	385	485	1080	0	530	4	441	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	113	73	0	342	0	0	0	252	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	117	0	0	0	0	0	176	0	0	0
Total Hourly Volume [veh/h]	0	1134	349	495	1444	0	541	4	526	0	0	0
Peak Hour Factor	1.0000	0.9630	0.9630	0.9630	0.9630	1.0000	0.9630	0.9630	0.9630	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	294	91	129	375	0	140	1	137	0	0	0
Total Analysis Volume [veh/h]	0	1178	362	514	1499	0	562	4	546	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	36	64	0	0	36	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	24	24	32	60	32	32	
g / C, Green / Cycle	0.24	0.24	0.32	0.60	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.24	0.32	0.44	0.33	0.37	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1538	
c, Capacity [veh/h]	1178	368	518	2057	518	492	
d1, Uniform Delay [s]	37.99	37.81	33.89	14.21	34.01	34.01	
k, delay calibration	0.50	0.50	0.45	0.50	0.49	0.50	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	26.26	43.33	35.63	2.31	50.58	93.54	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.00	0.98	0.99	0.73	1.04	1.16	
d, Delay for Lane Group [s/veh]	64.25	81.14	69.52	16.52	84.58	127.55	
Lane Group LOS	F	F	E	B	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	12.28	13.07	17.18	11.62	19.47	24.36	
50th-Percentile Queue Length [ft/ln]	307.03	326.64	429.51	290.44	486.65	609.08	
95th-Percentile Queue Length [veh/ln]	18.03	18.99	23.98	17.21	27.44	35.59	
95th-Percentile Queue Length [ft/ln]	450.75	474.84	599.45	430.19	686.08	889.81	

**Movement, Approach, & Intersection Results**

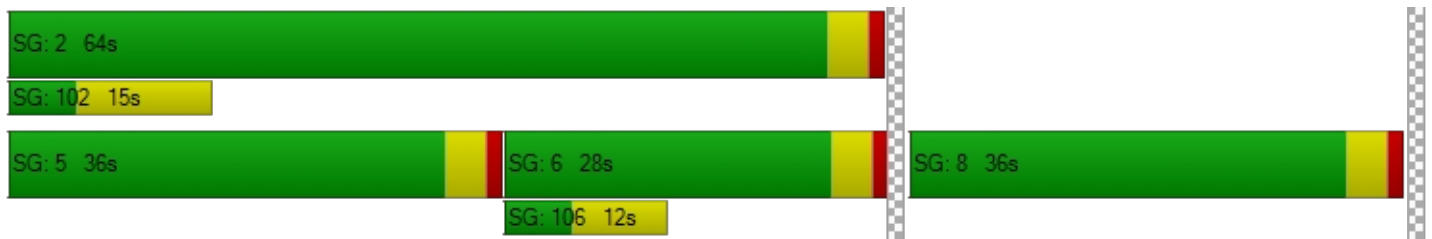
d_M, Delay for Movement [s/veh]	0.00	64.25	81.14	69.52	16.52	0.00	85.07	127.55	127.55	0.00	0.00	0.00
Movement LOS		F	F	E	B		F	F	F			
d_A, Approach Delay [s/veh]		68.22		30.05			106.68			0.00		
Approach LOS		E		C			F			A		
d_I, Intersection Delay [s/veh]	60.92											
Intersection LOS	E											
Intersection V/C	0.930											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		0.00		41.41		41.41
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.616		2.208
Crosswalk LOS	F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	480		1200		640		0
d_b, Bicycle Delay [s]	28.88		8.00		23.12		50.00
I_b,int, Bicycle LOS Score for Intersection	2.471		3.220		3.685		4.132
Bicycle LOS	B		C		D		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.652

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1205	4	80	1236	190	92	0	32	0	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	186	0	0	594	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	9	1415	3	82	1855	194	94	0	33	0	0	76
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	376	1	22	492	51	25	0	9	0	0	20
Total Analysis Volume [veh/h]	10	1502	3	87	1969	206	100	0	35	0	0	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	13	19	0	0	51	0	0	51	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	64	56	56	64	59	59	8	8	8
g / C, Green / Cycle	0.80	0.69	0.69	0.80	0.74	0.74	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.03	0.42	0.42	0.18	0.57	0.14	0.08	0.02	0.05
s, saturation flow rate [veh/h]	289	1800	1799	480	3427	1506	1317	1506	1506
c, Capacity [veh/h]	276	1248	1247	431	2516	1106	129	154	198
d1, Uniform Delay [s]	7.72	6.47	6.47	4.65	6.65	3.28	35.09	33.06	34.13
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	2.16	2.17	1.06	2.51	0.37	9.60	0.75	1.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.04	0.60	0.60	0.20	0.78	0.19	0.78	0.23	0.41
d, Delay for Lane Group [s/veh]	7.77	8.63	8.64	5.70	9.15	3.65	44.69	33.81	35.47
Lane Group LOS	A	A	A	A	A	A	D	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.02	5.81	5.81	0.27	7.83	0.83	2.20	0.64	1.54
50th-Percentile Queue Length [ft/ln]	0.50	145.34	145.31	6.83	195.68	20.78	55.01	16.10	38.43
95th-Percentile Queue Length [veh/ln]	0.04	9.77	9.77	0.49	12.42	1.50	3.96	1.16	2.77
95th-Percentile Queue Length [ft/ln]	0.91	244.19	244.15	12.30	310.38	37.40	99.01	28.99	69.17



**Movement, Approach, & Intersection Results**

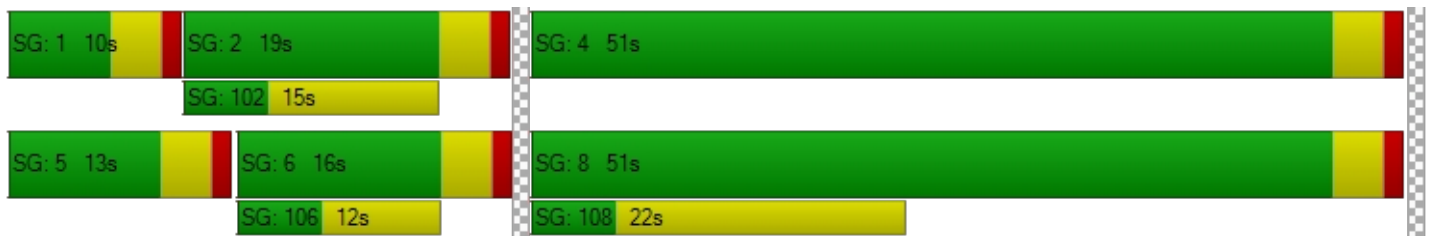
d_M, Delay for Movement [s/veh]	7.77	8.63	8.64	5.70	9.15	3.65	44.69	33.81	33.81	35.47	35.47	35.47
Movement LOS	A	A	A	A	A	A	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	8.63			8.52			41.87			35.47		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	10.24											
Intersection LOS	B											
Intersection V/C	0.652											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.53	0.00	31.53	31.53
I_p,int, Pedestrian LOS Score for Intersection	2.983	0.000	2.061	1.931
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	375	1174	1174
d_b, Bicycle Delay [s]	28.92	26.43	6.82	6.82
I_b,int, Bicycle LOS Score for Intersection	2.810	3.426	1.782	1.735
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	75.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	128	3	20	442	132	57	7	31	1	8	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	998	15	224	1423	261	229	84	86	11	127	198
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	266	4	60	380	70	61	22	23	3	34	53
Total Analysis Volume [veh/h]	124	1065	16	239	1519	279	244	90	92	12	136	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	42	0	24	53	0	24	42	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	45	45	20	56	56	20	37	37	2	19	19
g / C, Green / Cycle	0.08	0.38	0.38	0.16	0.47	0.47	0.17	0.31	0.31	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.31	0.31	0.15	0.51	0.54	0.15	0.03	0.06	0.01	0.08	0.14
s, saturation flow rate [veh/h]	1593	1772	1762	1593	1772	1680	1593	3373	1506	1593	1772	1506
c, Capacity [veh/h]	121	667	663	262	825	782	266	1049	468	23	281	239
d1, Uniform Delay [s]	55.49	33.63	33.63	49.29	32.09	32.09	49.20	29.28	30.36	58.72	46.02	49.41
k, delay calibration	0.11	0.50	0.50	0.16	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	45.65	10.41	10.47	15.84	58.84	82.04	17.13	0.03	0.20	16.26	1.29	11.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.03	0.81	0.81	0.91	1.09	1.15	0.92	0.09	0.20	0.51	0.48	0.88
d, Delay for Lane Group [s/veh]	101.14	44.03	44.10	65.12	90.93	114.13	66.33	29.32	30.56	74.98	47.30	61.26
Lane Group LOS	F	D	D	E	F	F	E	C	C	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.17	15.89	15.83	8.18	36.49	39.63	8.44	0.93	1.99	0.47	3.81	6.96
50th-Percentile Queue Length [ft/ln]	129.32	397.36	395.73	204.41	912.30	990.84	210.98	23.34	49.85	11.71	95.21	174.09
95th-Percentile Queue Length [veh/ln]	8.99	22.43	22.35	12.87	49.57	55.35	13.20	1.68	3.59	0.84	6.85	11.29
95th-Percentile Queue Length [ft/ln]	224.64	560.82	558.85	321.65	1239.14	1383.83	330.08	42.01	89.74	21.07	171.37	282.28

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	101.14	44.07	44.10	65.12	100.40	114.13	66.33	29.32	30.56	74.98	47.30	61.26
Movement LOS	F	D	D	E	F	F	E	C	C	E	D	E
d_A, Approach Delay [s/veh]	49.94			98.14			50.79			56.43		
Approach LOS	D			F			D			E		
d_I, Intersection Delay [s/veh]	74.99											
Intersection LOS	E											
Intersection V/C	0.906											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.35	51.35	51.35	51.35
I_p,int, Pedestrian LOS Score for Intersection	2.867	3.046	2.744	2.583
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	816	633	433
d_b, Bicycle Delay [s]	28.03	21.02	28.03	36.83
I_b,int, Bicycle LOS Score for Intersection	2.554	3.240	1.911	1.856
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	15.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.624

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	18	62	871	53	63	43	47	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	138	0	0	448	31	12	1	43	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	934	18	63	1336	85	76	45	91	10	69	39
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	243	5	16	348	22	20	12	24	3	18	10
Total Analysis Volume [veh/h]	100	974	19	66	1393	89	79	47	95	10	72	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	16	0	18	22	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	35	35	3	33	33	10	10
g / C, Green / Cycle	0.08	0.58	0.58	0.06	0.56	0.56	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.06	0.28	0.28	0.04	0.42	0.42	0.14	0.07
s, saturation flow rate [veh/h]	1593	1772	1760	1593	1772	1735	1612	1733
c, Capacity [veh/h]	126	1024	1017	90	985	965	348	351
d1, Uniform Delay [s]	27.20	7.44	7.44	27.89	10.22	10.28	24.08	22.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.85	1.65	1.66	10.72	5.43	5.70	1.93	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.49	0.49	0.73	0.76	0.76	0.64	0.35
d, Delay for Lane Group [s/veh]	38.06	9.09	9.10	38.60	15.66	15.98	26.01	23.15
Lane Group LOS	D	A	A	D	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.71	3.34	3.32	1.15	7.30	7.29	2.99	1.46
50th-Percentile Queue Length [ft/ln]	42.78	83.48	83.01	28.86	182.41	182.21	74.78	36.54
95th-Percentile Queue Length [veh/ln]	3.08	6.01	5.98	2.08	11.73	11.72	5.38	2.63
95th-Percentile Queue Length [ft/ln]	77.00	150.26	149.41	51.94	293.15	292.89	134.60	65.78

**Movement, Approach, & Intersection Results**

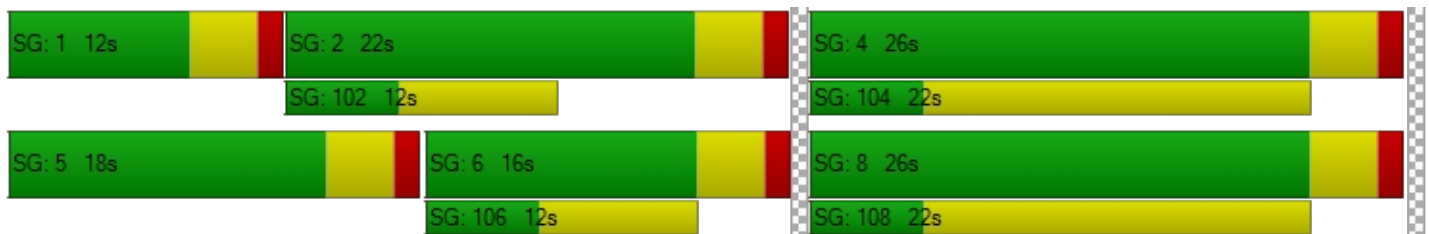
d_M, Delay for Movement [s/veh]	38.06	9.09	9.10	38.60	15.81	15.98	26.01	26.01	26.01	23.15	23.15	23.15
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.74			16.79			26.01			23.15		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	15.89											
Intersection LOS	B											
Intersection V/C	0.624											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.70	21.70	21.70	21.70
I_p,int, Pedestrian LOS Score for Intersection	2.800	2.908	1.931	1.861
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	400	600	733	733
d_b, Bicycle Delay [s]	19.22	14.72	12.05	12.05
I_b,int, Bicycle LOS Score for Intersection	2.461	2.837	1.924	1.763
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	222.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.455

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	183	95	0	0	218	274	70	9	49	0	33	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	0	0	0	18	0	0	0
Total Hourly Volume [veh/h]	198	855	25	94	1045	297	123	44	53	31	71	50
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	233	7	26	284	81	33	12	14	8	19	14
Total Analysis Volume [veh/h]	215	930	27	102	1137	323	134	48	58	34	77	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	15	15	5	15	15	28	28	28	28
g / C, Green / Cycle	0.08	0.26	0.26	0.08	0.25	0.25	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.13	0.27	0.27	0.06	0.42	0.43	3.89	0.04	0.38	0.04
s, saturation flow rate [veh/h]	1619	1772	1754	1593	1772	1640	47	1530	291	1506
c, Capacity [veh/h]	135	456	451	126	448	415	126	710	214	699
d1, Uniform Delay [s]	27.50	22.28	22.28	27.20	22.42	22.42	25.31	8.96	13.73	8.94
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.28	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	274.52	57.26	57.60	11.80	311.44	332.81	239.43	0.05	4.92	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.59	1.05	1.05	0.81	1.67	1.72	1.45	0.08	0.52	0.08
d, Delay for Lane Group [s/veh]	302.02	79.54	79.88	39.00	333.86	355.23	264.74	9.01	18.65	8.99
Lane Group LOS	F	F	F	D	F	F	F	A	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	12.11	13.09	13.01	1.77	44.49	43.65	10.11	0.37	1.01	0.35
50th-Percentile Queue Length [ft/ln]	302.86	327.35	325.18	44.26	1112.20	1091.29	252.69	9.33	25.35	8.67
95th-Percentile Queue Length [veh/ln]	20.33	19.61	19.51	3.19	69.50	68.73	18.19	0.67	1.82	0.62
95th-Percentile Queue Length [ft/ln]	508.17	490.29	487.64	79.66	1737.49	1718.27	454.85	16.79	45.62	15.60

**Movement, Approach, & Intersection Results**

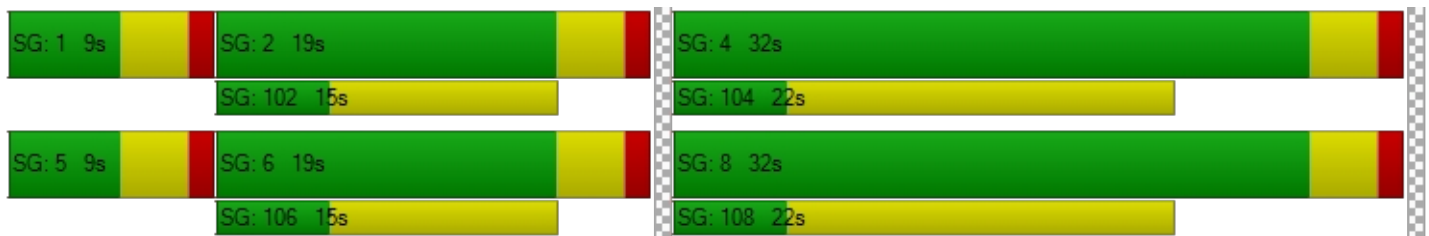
d_M, Delay for Movement [s/veh]	302.02	79.71	79.88	39.00	341.17	355.23	264.74	264.74	9.01	18.65	18.65	8.99
Movement LOS	F	F	E	D	F	F	F	F	A	B	B	A
d_A, Approach Delay [s/veh]	120.49			324.34			202.94			15.49		
Approach LOS	F			F			F			B		
d_I, Intersection Delay [s/veh]	222.72											
Intersection LOS	F											
Intersection V/C	4.455											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.814	2.994	2.230	2.035
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	933	933
d_b, Bicycle Delay [s]	16.88	16.88	8.53	8.53
I_b,int, Bicycle LOS Score for Intersection	2.533	2.848	1.985	1.832
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	23	755	1	19	805	19	79	29	25	21	16	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	276	0	0	266	1	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	5	0	0	7	0	0	5
Total Hourly Volume [veh/h]	23	1046	1	19	1087	15	83	30	19	21	16	13
Peak Hour Factor	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	292	0	5	303	4	23	8	5	6	4	4
Total Analysis Volume [veh/h]	26	1167	1	21	1213	17	93	33	21	23	18	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	40	40	2	39	39	7	7
g / C, Green / Cycle	0.03	0.66	0.66	0.03	0.66	0.66	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.32	0.32	0.01	0.34	0.34	0.09	0.03
s, saturation flow rate [veh/h]	1619	1800	1799	1619	1800	1791	1621	1712
c, Capacity [veh/h]	49	1188	1188	42	1180	1174	283	281
d1, Uniform Delay [s]	28.70	5.14	5.14	28.89	5.43	5.43	25.75	24.35
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.48	1.46	1.46	9.12	1.66	1.67	1.47	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.49	0.49	0.50	0.52	0.52	0.52	0.20
d, Delay for Lane Group [s/veh]	37.18	6.60	6.60	38.01	7.09	7.10	27.22	24.69
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	2.87	2.87	0.39	3.20	3.19	2.03	0.72
50th-Percentile Queue Length [ft/ln]	11.68	71.68	71.67	9.75	80.10	79.83	50.74	17.90
95th-Percentile Queue Length [veh/ln]	0.84	5.16	5.16	0.70	5.77	5.75	3.65	1.29
95th-Percentile Queue Length [ft/ln]	21.03	129.03	129.00	17.55	144.19	143.70	91.33	32.22

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	37.18	6.60	6.60	38.01	7.09	7.10	27.22	27.22	27.22	24.69	24.69	24.69
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.26			7.61			27.22			24.69		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.90											
Intersection LOS	A											
Intersection V/C	0.449											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.793			2.914			1.813			1.759		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.545			2.596			1.814			1.660		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	38	677	7	14	808	23	34	12	75	43	11	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	255	2	1	261	5	19	0	37	2	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	0	0	0	0	0	0	4
Total Hourly Volume [veh/h]	74	946	7	15	1085	28	54	12	114	46	11	10
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	252	2	4	289	7	14	3	30	12	3	3
Total Analysis Volume [veh/h]	79	1007	7	16	1155	30	58	13	121	49	12	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	25	0	9	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	38	38	1	35	35	9	9
g / C, Green / Cycle	0.06	0.63	0.63	0.02	0.59	0.59	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.05	0.28	0.28	0.01	0.33	0.33	0.12	0.06
s, saturation flow rate [veh/h]	1593	1800	1796	1619	1800	1784	1585	1218
c, Capacity [veh/h]	99	1133	1130	33	1058	1048	316	284
d1, Uniform Delay [s]	27.79	5.74	5.74	29.10	7.63	7.63	24.56	22.81
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.27	1.28	1.29	10.30	2.16	2.19	1.88	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.79	0.45	0.45	0.48	0.56	0.56	0.61	0.25
d, Delay for Lane Group [s/veh]	41.06	7.03	7.03	39.40	9.79	9.82	26.45	23.27
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.43	2.71	2.71	0.31	4.16	4.13	2.62	0.90
50th-Percentile Queue Length [ft/ln]	35.68	67.84	67.70	7.82	103.95	103.25	65.55	22.39
95th-Percentile Queue Length [veh/ln]	2.57	4.88	4.87	0.56	7.48	7.43	4.72	1.61
95th-Percentile Queue Length [ft/ln]	64.22	122.11	121.86	14.08	187.11	185.85	118.00	40.29

**Movement, Approach, & Intersection Results**

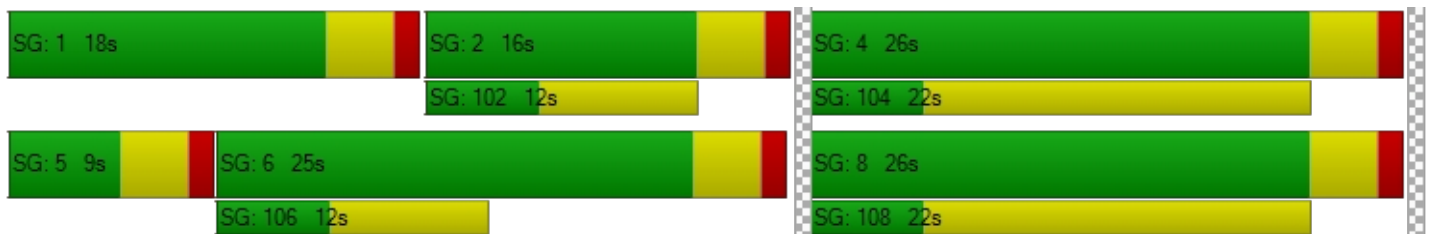
d_M, Delay for Movement [s/veh]	41.06	7.03	7.03	39.40	9.80	9.82	26.45	26.45	26.45	23.27	23.27	23.27
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.49			10.20			26.45			23.27		
Approach LOS	A			B			C			C		
d_I, Intersection Delay [s/veh]	11.48											
Intersection LOS	B											
Intersection V/C	0.501											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.825			2.808			1.848			1.757		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			400			733			733		
d_b, Bicycle Delay [s]	12.69			19.22			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.463			2.550			1.876			1.685		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	38.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.787

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	630	97	129	806	5	8	0	9	141	1	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	230	160	177	122	0	0	0	0	52	0	62
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	65	0	0	1	0	0	2	0	0	27
Total Hourly Volume [veh/h]	4	873	194	309	944	4	8	0	7	196	1	81
Peak Hour Factor	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	247	55	87	267	1	2	0	2	55	0	23
Total Analysis Volume [veh/h]	5	989	220	350	1069	5	9	0	8	222	1	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	19	0	15	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	22	22	11	32	32	15	15	15
g / C, Green / Cycle	0.01	0.36	0.36	0.18	0.54	0.54	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.00	0.35	0.35	0.22	0.30	0.30	0.07	0.22	0.06
s, saturation flow rate [veh/h]	1619	1800	1688	1619	1800	1797	234	999	1530
c, Capacity [veh/h]	12	649	608	297	966	964	152	376	392
d1, Uniform Delay [s]	29.68	18.78	18.82	24.51	9.19	9.19	18.24	21.39	17.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.17	26.82	28.62	87.97	2.31	2.32	0.32	1.50	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.96	0.96	1.18	0.56	0.56	0.11	0.59	0.23
d, Delay for Lane Group [s/veh]	52.85	45.61	47.44	112.48	11.50	11.51	18.56	22.89	17.97
Lane Group LOS	D	D	D	F	B	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.14	12.25	11.83	11.17	4.34	4.33	0.18	2.89	0.96
50th-Percentile Queue Length [ft/ln]	3.58	306.29	295.87	279.13	108.39	108.29	4.42	72.17	24.08
95th-Percentile Queue Length [veh/ln]	0.26	17.99	17.48	17.94	7.75	7.74	0.32	5.20	1.73
95th-Percentile Queue Length [ft/ln]	6.45	449.80	436.92	448.40	193.75	193.62	7.96	129.90	43.34

**Movement, Approach, & Intersection Results**

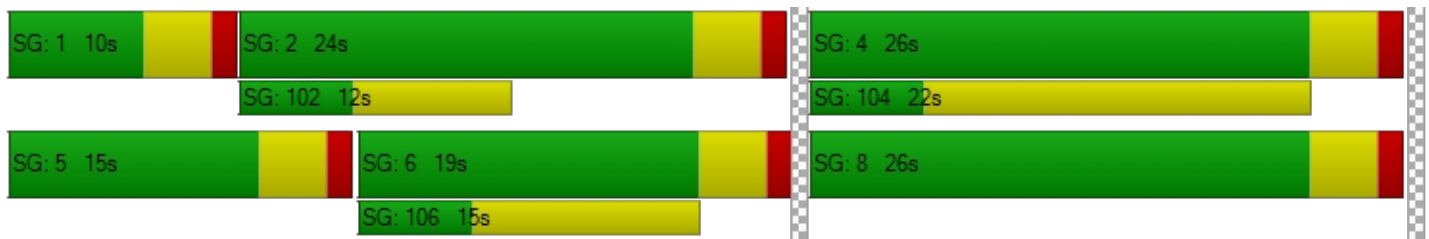
d_M, Delay for Movement [s/veh]	52.85	46.28	47.44	112.48	11.50	11.51	18.56	18.56	18.56	22.89	22.89	17.97
Movement LOS	D	D	D	F	B	B	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	46.52			36.32			18.56			21.45		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	38.81											
Intersection LOS	D											
Intersection V/C	0.787											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.69	21.69	21.69
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.790	1.714	2.277
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	666	733	733
d_b, Bicycle Delay [s]	16.88	13.34	12.04	12.04
I_b,int, Bicycle LOS Score for Intersection	2.615	2.735	1.591	2.124
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	75.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.935

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		



**Volumes**

Name												
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	180	73	91	83	0	0	0	0	20	0	209
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	7	0	0	0	0	0	175
Total Hourly Volume [veh/h]	42	452	433	566	471	20	29	66	27	235	101	525
Peak Hour Factor	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	129	124	162	134	6	8	19	8	67	29	150
Total Analysis Volume [veh/h]	48	516	494	646	538	23	33	75	31	268	115	599
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	69	43	0	47	21	0	0	12	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	39	39	43	77	77	8	8	24
g / C, Green / Cycle	0.04	0.30	0.30	0.33	0.60	0.60	0.06	0.06	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.31	0.36	0.15	0.01	0.02	0.06	0.21
s, saturation flow rate [veh/h]	1781	3560	1589	1810	3560	1615	1810	1807	1836
c, Capacity [veh/h]	63	1072	479	597	2120	962	110	110	339
d1, Uniform Delay [s]	62.13	37.13	45.43	43.55	12.53	10.79	58.38	60.88	53.00
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.38
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.54	1.55	49.61	60.86	0.29	0.05	1.49	31.24	83.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.76	0.48	1.03	1.08	0.25	0.02	0.30	0.96	1.13
d, Delay for Lane Group [s/veh]	78.67	38.68	95.04	104.41	12.81	10.83	59.87	92.12	136.07
Lane Group LOS	E	D	F	F	B	B	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.87	6.98	21.92	29.08	3.80	0.29	1.09	4.45	18.87
50th-Percentile Queue Length [ft/ln]	46.69	174.52	548.01	727.02	94.98	7.14	27.21	111.25	471.70
95th-Percentile Queue Length [veh/ln]	3.36	11.31	30.22	39.98	6.84	0.51	1.96	7.91	27.66
95th-Percentile Queue Length [ft/ln]	84.04	282.85	755.42	999.48	170.96	12.86	48.98	197.73	691.48

**Movement, Approach, & Intersection Results**

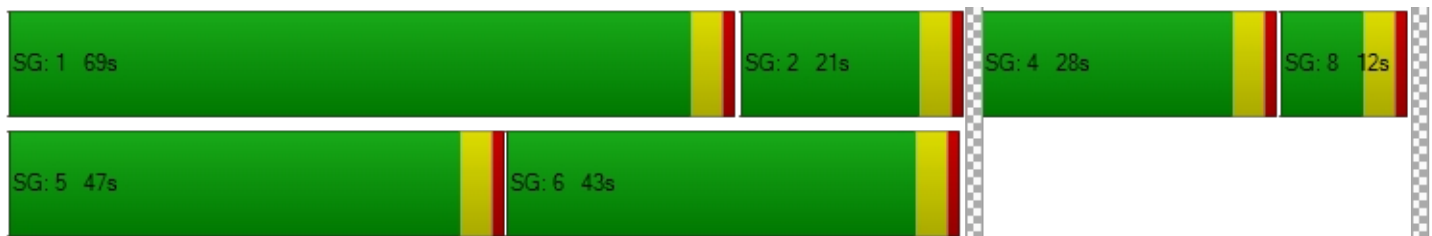
d_M, Delay for Movement [s/veh]	78.67	38.68	95.04	104.41	12.81	10.83	59.87	92.12	92.12	136.07	136.07	0.00
Movement LOS	E	D	F	F	B	B	E	F	F	F	F	
d_A, Approach Delay [s/veh]	66.81			61.80			84.46			136.07		
Approach LOS	E			E			F			F		
d_I, Intersection Delay [s/veh]	75.04											
Intersection LOS	E											
Intersection V/C	0.935											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			262			123			369		
d_b, Bicycle Delay [s]	31.85			49.11			57.25			43.22		
I_b,int, Bicycle LOS Score for Intersection	2.432			2.561			1.789			2.192		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	34.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.831

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	5	163	17	227	359	505	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	48	0	22	80	86	0	0	207	169
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	5	0	0	0
Total Hourly Volume [veh/h]	9	5	5	214	17	254	446	601	16	5	769	394
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	59	5	70	123	166	4	1	213	109
Total Analysis Volume [veh/h]	10	6	6	237	19	281	493	665	18	6	851	436
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	46	55	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27	29	56	56	1	28	28
g / C, Green / Cycle	0.28	0.28	0.28	0.30	0.59	0.59	0.01	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.28	0.18	0.28	0.19	0.01	0.00	0.24	0.27
s, saturation flow rate [veh/h]	189	914	1589	1781	3560	1615	1781	3560	1589
c, Capacity [veh/h]	108	328	444	536	2085	946	16	1045	467
d1, Uniform Delay [s]	27.98	34.52	29.98	32.11	10.04	8.25	46.83	31.16	32.67
k, delay calibration	0.50	0.50	0.50	0.18	0.11	0.11	0.11	0.11	0.35
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.22	16.64	6.72	10.95	0.09	0.01	14.13	1.60	22.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.20	0.78	0.63	0.92	0.32	0.02	0.38	0.81	0.93
d, Delay for Lane Group [s/veh]	32.19	51.16	36.70	43.06	10.12	8.26	60.96	32.76	54.90
Lane Group LOS	C	D	D	D	B	A	E	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.49	7.30	6.34	12.24	3.31	0.15	0.20	9.04	12.35
50th-Percentile Queue Length [ft/ln]	12.15	182.45	158.44	306.10	82.80	3.71	5.06	226.07	308.71
95th-Percentile Queue Length [veh/ln]	0.87	11.73	10.47	17.98	5.96	0.27	0.36	13.97	18.11
95th-Percentile Queue Length [ft/ln]	21.87	293.21	261.66	449.57	149.04	6.68	9.12	349.37	452.78



**Movement, Approach, & Intersection Results**

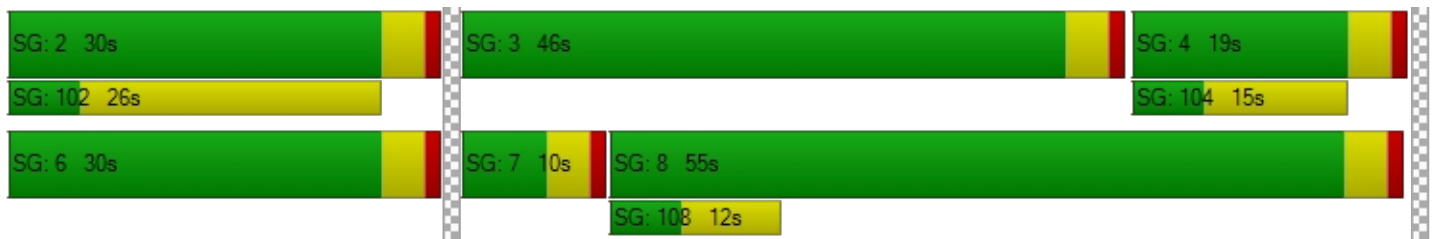
d_M, Delay for Movement [s/veh]	32.19	32.19	32.19	51.16	51.16	36.70	43.06	10.12	8.26	60.96	32.76	54.90
Movement LOS	C	C	C	D	D	D	D	B	A	E	C	D
d_A, Approach Delay [s/veh]	32.19			43.59			23.90			40.36		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	34.48											
Intersection LOS	C											
Intersection V/C	0.831											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	38.93	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.753	2.423	2.856	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	547	1074	316
d_b, Bicycle Delay [s]	25.06	25.06	10.19	33.69
I_b,int, Bicycle LOS Score for Intersection	1.596	2.446	2.534	2.626
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	29.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.790

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	370	0	0	124	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	0	0	0	21	0	0	0
Total Hourly Volume [veh/h]	80	1158	155	31	767	0	4	31	63	103	17	21
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	312	42	8	207	0	1	8	17	28	5	6
Total Analysis Volume [veh/h]	86	1249	167	33	827	0	4	33	68	111	18	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	39	62	0	9	32	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	84	84	3	80	80	7	7	9	9
g / C, Green / Cycle	0.06	0.70	0.70	0.03	0.67	0.67	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.05	0.67	0.10	0.02	0.44	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1890	1615	1810	1729
c, Capacity [veh/h]	111	1312	1133	50	1249	1062	110	94	142	136
d1, Uniform Delay [s]	55.50	16.12	5.97	57.74	11.85	0.00	54.28	55.55	54.27	52.18
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.76	15.78	0.27	13.54	2.77	0.00	1.77	9.90	8.87	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.77	0.95	0.15	0.66	0.66	0.00	0.34	0.72	0.78	0.30
d, Delay for Lane Group [s/veh]	66.26	31.90	6.24	71.28	14.62	0.00	56.05	65.45	63.14	53.41
Lane Group LOS	E	C	A	E	B	A	E	E	E	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.90	32.28	1.40	1.18	13.07	0.00	1.13	2.28	3.64	1.22
50th-Percentile Queue Length [ft/ln]	72.44	807.02	35.01	29.54	326.65	0.00	28.26	57.08	91.06	30.38
95th-Percentile Queue Length [veh/ln]	5.22	41.60	2.52	2.13	18.99	0.00	2.03	4.11	6.56	2.19
95th-Percentile Queue Length [ft/ln]	130.40	1039.97	63.01	53.18	474.86	0.00	50.86	102.75	163.90	54.69

**Movement, Approach, & Intersection Results**

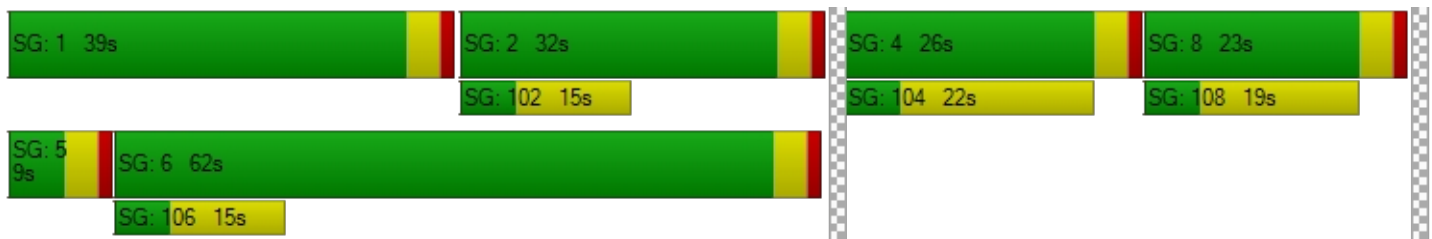
d_M, Delay for Movement [s/veh]	66.26	31.90	6.24	71.28	14.62	0.00	56.05	56.05	65.45	63.14	53.41	53.41
Movement LOS	E	C	A	E	B	A	E	E	E	E	D	D
d_A, Approach Delay [s/veh]	31.01			16.79			62.14			60.51		
Approach LOS	C			B			E			E		
d_I, Intersection Delay [s/veh]	29.30											
Intersection LOS	C											
Intersection V/C	0.790											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.35			51.35			51.35			51.35		
I_p,int, Pedestrian LOS Score for Intersection	2.849			2.732			2.060			2.097		
Crosswalk LOS	C			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	967			467			317			367		
d_b, Bicycle Delay [s]	16.02			35.27			42.51			40.02		
I_b,int, Bicycle LOS Score for Intersection	4.124			2.979			1.768			1.810		
Bicycle LOS	D			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.525

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1004	197	41	760	0	0	0	9	197	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	382	0	4	120	0	0	0	0	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	50	0	0	0	0	0	2	0	0	14
Total Hourly Volume [veh/h]	31	1406	151	46	895	0	0	0	7	201	5	41
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	388	42	13	247	0	0	0	2	55	1	11
Total Analysis Volume [veh/h]	34	1552	167	51	988	0	0	0	8	222	6	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	26	26	9	17	0	0	14	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	48	48	3	49	49	1	1	7	7	7
g / C, Green / Cycle	0.03	0.64	0.64	0.04	0.65	0.65	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.43	0.10	0.03	0.26	0.26	0.00	0.00	0.06	0.06	0.03
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	65	2294	1024	82	1223	1223	23	19	174	174	155
d1, Uniform Delay [s]	35.65	8.83	5.62	35.28	6.45	6.45	0.00	36.91	32.81	32.80	31.62
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.52	1.62	0.34	7.43	0.99	0.99	0.00	13.64	4.14	4.13	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.68	0.16	0.62	0.40	0.40	0.00	0.42	0.66	0.66	0.29
d, Delay for Lane Group [s/veh]	42.17	10.45	5.96	42.71	7.45	7.45	0.00	50.55	36.95	36.93	32.64
Lane Group LOS	D	B	A	D	A	A	A	D	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.71	6.92	0.97	1.06	3.35	3.35	0.00	0.22	2.14	2.15	0.78
50th-Percentile Queue Length [ft/ln]	17.87	172.93	24.36	26.61	83.63	83.63	0.00	5.39	53.60	53.69	19.61
95th-Percentile Queue Length [veh/ln]	1.29	11.23	1.75	1.92	6.02	6.02	0.00	0.39	3.86	3.87	1.41
95th-Percentile Queue Length [ft/ln]	32.16	280.77	43.85	47.90	150.53	150.53	0.00	9.71	96.48	96.64	35.30

**Movement, Approach, & Intersection Results**

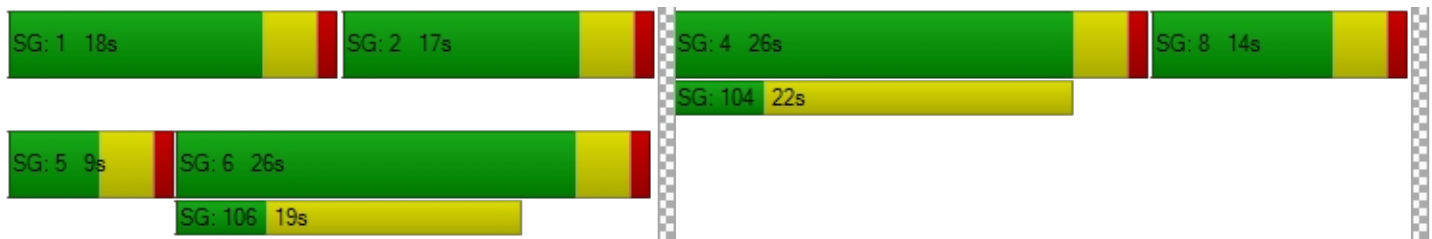
d_M, Delay for Movement [s/veh]	42.17	10.45	5.96	42.71	7.45	7.45	0.00	0.00	50.55	36.94	36.93	32.64
Movement LOS	D	B	A	D	A	A	A	A	D	D	D	C
d_A, Approach Delay [s/veh]	10.64			9.18			50.55			36.23		
Approach LOS	B			A			D			D		
d_I, Intersection Delay [s/veh]	12.52											
Intersection LOS	B											
Intersection V/C	0.525											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	29.10	0.00	29.10
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.809	0.000	2.279
Crosswalk LOS	F	C	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	586	346	266	586
d_b, Bicycle Delay [s]	18.78	25.68	28.23	18.78
I_b,int, Bicycle LOS Score for Intersection	3.047	2.417	1.576	2.033
Bicycle LOS	C	B	A	B

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	153	260	0	0	831	137	0	0	0	101	0	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	68	0	0	114	6	0	0	0	0	0	313
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	37	0	0	0	0	0	325
Total Hourly Volume [veh/h]	156	333	0	0	962	109	0	0	0	103	0	976
Peak Hour Factor	0.8970	0.8970	1.0000	1.0000	0.8970	0.8970	1.0000	1.0000	1.0000	0.8970	1.0000	0.8970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	93	0	0	268	30	0	0	0	29	0	272
Total Analysis Volume [veh/h]	174	371	0	0	1072	122	0	0	0	115	0	1088
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.59		0.09
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.30		0.06
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	222	2822	2138		157
d1, Uniform Delay [s]	25.61	1.62	7.15		26.79
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.96	0.10	0.84		6.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.78	0.13	0.50		0.73
d, Delay for Lane Group [s/veh]	31.58	1.72	8.00		33.19
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.63	0.20	3.23		1.80
50th-Percentile Queue Length [ft/ln]	65.86	4.93	80.80		44.98
95th-Percentile Queue Length [veh/ln]	4.74	0.35	5.82		3.24
95th-Percentile Queue Length [ft/ln]	118.55	8.87	145.44		80.96

**Movement, Approach, & Intersection Results**

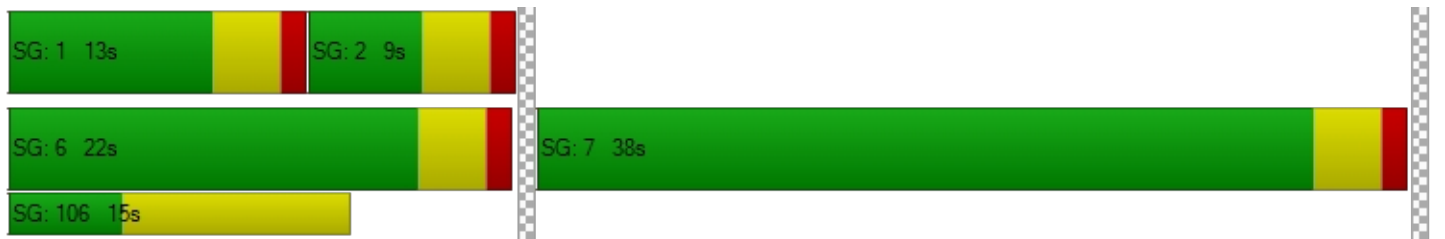
d_M, Delay for Movement [s/veh]	31.58	1.72	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	33.19	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	11.25				8.00				0.00		33.19		
Approach LOS	B				A				A		C		
d_I, Intersection Delay [s/veh]	10.69												
Intersection LOS	B												
Intersection V/C	0.456												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.958	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	2.009		2.444		4.132		1.560	
Bicycle LOS	B		B		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			←↑↑			↑↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	127	664	265	0	112	0	337	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	62	0	91	23	0	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	33	0	0	0	0	0	86	0	0	0
Total Hourly Volume [veh/h]	0	369	97	768	293	0	120	0	258	0	0	0
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	26	209	80	0	33	0	70	0	0	0
Total Analysis Volume [veh/h]	0	401	105	835	318	0	130	0	280	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	36	48	0	12	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	11	29	44	8	8	
g / C, Green / Cycle	0.18	0.49	0.74	0.13	0.13	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.46	0.09	0.07	0.10	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	650	888	2665	236	372	
d1, Uniform Delay [s]	22.77	14.49	2.29	24.52	25.23	
k, delay calibration	0.50	0.36	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	4.36	14.71	0.09	2.01	3.08	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.62	0.94	0.12	0.55	0.75	
d, Delay for Lane Group [s/veh]	27.13	29.19	2.38	26.53	28.31	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	2.83	12.35	0.30	1.76	1.97	
50th-Percentile Queue Length [ft/ln]	70.65	308.80	7.38	44.06	49.17	
95th-Percentile Queue Length [veh/ln]	5.09	18.12	0.53	3.17	3.54	
95th-Percentile Queue Length [ft/ln]	127.17	452.89	13.28	79.31	88.50	

**Movement, Approach, & Intersection Results**

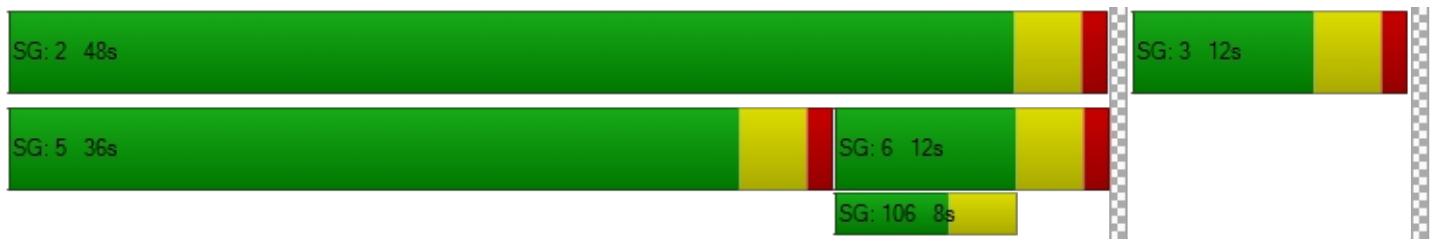
d_M, Delay for Movement [s/veh]	0.00	27.13	0.00	29.19	2.38	0.00	26.53	0.00	28.31	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	27.13			21.80			27.74			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	24.13											
Intersection LOS	C											
Intersection V/C	0.670											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.218		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			1465			266			0		
d_b, Bicycle Delay [s]	22.57			2.15			22.57			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.890			2.511			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	11	0	0	11	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	16	72	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	0	16	83	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	4	22	0	1
Total Analysis Volume [veh/h]	31	0	17	87	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.30	0.00	9.35	8.46
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.81	0.81	0.29	0.29
d_A, Approach Delay [s/veh]	0.00		1.19		8.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.14					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0200	1.0000	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	16	56	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	25	0	16	67	0	0	0	0	0	0	4
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	0	4	18	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	26	0	16	71	0	0	0	0	0	0	4
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.02	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.08	9.16	8.42	9.08	9.45	8.75	7.23	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.09	0.32	0.32	0.32	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.25	2.25	2.25	7.91	7.91	7.91	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.16			9.38			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.01											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	7	9	48	0	0	0	0	27	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	23	7	9	59	0	0	0	0	27	0	2
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	2	2	16	0	0	0	0	7	0	1
Total Analysis Volume [veh/h]	0	24	7	9	62	0	0	0	0	27	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	7.27	0.00	0.00	9.14	9.63	8.57	9.26	9.74	8.56
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.10	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.43	0.43	0.43	0.00	0.00	0.00	2.54	2.54	2.54
d_A, Approach Delay [s/veh]	0.00			0.92			9.11			9.22		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.54											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	254	209	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	40	128	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	299	341	0	0	4
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	79	90	0	0	1
Total Analysis Volume [veh/h]	16	315	359	0	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	8.01	0.00	0.00	0.00	0.00	10.25
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	1.00	1.00	0.00	0.00	0.00	0.44
d_A, Approach Delay [s/veh]	0.39		0.00		10.25	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	254	0	0	209	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	59	16	16	89	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	318	16	16	302	0	8
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	4	4	79	0	2
Total Analysis Volume [veh/h]	335	16	16	318	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.99	0.00	0.00	10.17
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.00	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.00	1.00	0.00	0.86
d_A, Approach Delay [s/veh]	0.00		0.38		10.17	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.30					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	6.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.230

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑ →			← ↑ →			↑			↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	254	0	0	209	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	54	73	54	0	82	8	2	0	13	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	2	0	0	3	0	0	0
Total Hourly Volume [veh/h]	54	332	40	0	295	6	2	0	10	14	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	87	11	0	78	2	1	0	3	4	0	0
Total Analysis Volume [veh/h]	57	349	42	0	311	6	2	0	11	15	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	28	0	9	26	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	47	0	44	1	1
g / C, Green / Cycle	0.05	0.78	0.00	0.73	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.03	0.22	0.00	0.18	0.01	0.01
s, saturation flow rate [veh/h]	1714	1767	1714	1794	1765	1675
c, Capacity [veh/h]	91	1374	3	1304	105	154
d1, Uniform Delay [s]	27.89	1.90	0.00	2.73	29.07	29.11
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.80	0.52	0.00	0.44	0.52	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.62	0.28	0.00	0.24	0.12	0.10
d, Delay for Lane Group [s/veh]	34.69	2.42	0.00	3.17	29.59	29.38
Lane Group LOS	C	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.89	0.25	0.00	0.79	0.19	0.22
50th-Percentile Queue Length [ft/ln]	22.37	6.35	0.00	19.86	4.79	5.39
95th-Percentile Queue Length [veh/ln]	1.61	0.46	0.00	1.43	0.35	0.39
95th-Percentile Queue Length [ft/ln]	40.27	11.42	0.00	35.75	8.63	9.70

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	34.69	2.42	2.42	0.00	3.17	3.17	29.59	29.59	29.59	29.38	29.38	29.38
Movement LOS	C	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.53			3.17			29.59			29.38		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.00											
Intersection LOS	A											
Intersection V/C	0.230											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.353			2.144			1.739			1.730		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			732			632			632		
d_b, Bicycle Delay [s]	10.83			12.07			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.322			2.086			1.586			1.584		
Bicycle LOS	B			B			A			A		

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	62	80	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	4	16	90	341	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	4	16	153	423	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	4	40	111	4
Total Analysis Volume [veh/h]	4	4	17	161	445	17
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.01	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.48	11.01	8.29	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.21	1.21	1.17	1.17	0.00	0.00
d_A, Approach Delay [s/veh]	12.24		0.79		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.37					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	27	26	26	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	2	16	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	37	29	43	4	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	8	11	1	0
Total Analysis Volume [veh/h]	0	39	31	45	4	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	0.00	8.96	8.55
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.33	0.33
d_A, Approach Delay [s/veh]	0.00		0.00		8.96	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.30					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	7	0	0	30	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	16	0	2	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	16	0	33	4	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	0	9	1	0
Total Analysis Volume [veh/h]	17	17	0	35	4	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.26	0.00	8.80	8.42
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.32	0.32
d_A, Approach Delay [s/veh]	0.00		0.00		8.80	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	0	7	0	0	30	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	33	0	6	0	0	0	0	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	32	33	0	37	0	0	0	0	8	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	9	0	10	0	0	0	0	2	0	0
Total Analysis Volume [veh/h]	0	34	35	0	39	0	0	0	0	8	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.33	0.00	0.00	9.01	9.58	8.47	9.04	9.52	8.56
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67	0.67
d_A, Approach Delay [s/veh]	0.00			0.00			9.02			9.04		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.62											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	79	82	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	109	415	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	190	499	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	50	131	5
Total Analysis Volume [veh/h]	5	0	0	200	525	19
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.76	10.02	8.48	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.91	0.91	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.76		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	57	46	0	0	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	15	12	0	0	2
Total Analysis Volume [veh/h]	34	60	48	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	0.00	9.53	8.53
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.66	1.66	0.00	0.00	0.59	0.59
d_A, Approach Delay [s/veh]	2.66		0.00		8.53	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.12					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	32	8	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	89	54	0	0	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	23	14	0	0	2
Total Analysis Volume [veh/h]	26	94	57	0	0	6
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	0.00	9.66	8.57
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.27	1.27	0.00	0.00	0.45	0.45
d_A, Approach Delay [s/veh]	1.59		0.00		8.57	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.32					
Intersection LOS	A					

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**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	677	839	328	574	748	1116	1069	686	427	705	7169

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	149	1306	96	658	1065	170	197	217	61	53	260	394	4626

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1488	23	57	1083	10	64	2725

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	137	1278	36	172	819	85	107	70	42	49	95	120	3010

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	19	3	11	11	0	10	9	309	60	39	257	10	738

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	76	188	35	6	142	5	5	157	136	62	196	19	1027

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	251	114	54	258	240	181	1098

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	17	8	10	16	12	33	7	157	37	8	226	18	549

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	42	4	1	156	435	64	702

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	5	39	5	28	18	13	1	186	6	3	499	74	877

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	456	1218	1361	1032	578	5	496	5146

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1134	466	495	1444	541	4	702	4786

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	9	1415	4	82	1855	194	94	0	33	0	0	101	3787

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	116	998	15	224	1423	261	229	84	86	11	127	198	3772

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	96	934	18	63	1336	85	76	45	91	10	69	39	2862

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	198	855	33	94	1045	297	123	44	71	31	71	50	2912

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	23	1046	1	19	1087	20	83	30	26	21	16	18	2390

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	74	946	9	15	1085	28	54	12	114	46	11	14	2408

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	873	259	309	944	5	8	0	9	196	1	108	2716

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	42	452	433	566	471	27	29	66	27	235	101	700	3149

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	5	214	17	254	446	601	21	5	769	394	2740

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	80	1158	207	31	767	0	4	31	84	103	17	21	2503

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	31	1406	201	46	895	0	0	0	9	201	5	55	2849

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	156	333	962	146	103	1301	3001

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	369	130	768	293	120	344	2024

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	29	0	16	83	0	4	132

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	25	0	16	67	0	0	0	0	0	0	4	112

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	23	7	9	59	0	0	0	0	27	0	2	127

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	16	299	341	0	4	660	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	318	16	16	302	8	660	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	54	332	54	0	295	8	2	0	13	14	0	0	772

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	4	4	16	153	423	16	616

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	37	29	43	4	0	113

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	16	16	0	33	4	0	69

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	32	33	0	37	0	0	0	0	8	0	0	110

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	5	0	0	190	499	18	712

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	32	57	46	0	0	8	143

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	25	89	54	0	0	6	174

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**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.666	36.3	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.553	32.9	C
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.349	4.4	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.418	17.9	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.430	10.3	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.533	14.0	B
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.659	39.8	E
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.027	12.7	B
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.127	15.5	C
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	WB Thru	0.662	13.7	B
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	1.129	82.7	F
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.913	56.5	E
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.616	9.7	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.871	62.9	E
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.584	14.7	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	SB Right	3.419	176.0	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.445	8.8	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	NB Left	0.491	11.2	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	SB Left	0.770	35.6	D
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	WB Left	0.930	73.9	E
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.831	34.4	C
22	Market St/24th St	Signalized	HCM 6th Edition	SB Left	0.767	26.9	C
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.513	12.4	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.453	10.7	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.665	23.8	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.002	8.4	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	SB Thru	0.041	9.2	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.012	8.9	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.003	10.0	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.005	10.0	A
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.193	3.9	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.004	12.0	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.002	8.9	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.002	8.7	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.004	8.9	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.004	12.0	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.004	8.5	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.003	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	36.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.666

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	615	801	308	563	657	1094	1048	0	519	375	0	691
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	39	18	14	0	60	0	0	0	111	44	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	82	0	0	279	0	0	160	0	0	176
Total Hourly Volume [veh/h]	666	835	246	574	730	837	1069	0	480	427	0	529
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	1.0000	0.9530	0.9530	1.0000	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	175	219	65	151	192	220	280	0	126	112	0	139
Total Analysis Volume [veh/h]	699	876	258	602	766	878	1122	0	504	448	0	555
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	38	21	36	38	38
g / C, Green / Cycle	0.22	0.35	0.19	0.33	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.20	0.17	0.17	0.15	0.32	0.13
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	767	1811	682	1685	1219	1219
d1, Uniform Delay [s]	41.90	27.95	43.06	29.32	34.43	26.86
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.65	0.93	3.99	0.89	3.38	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.91	0.48	0.88	0.45	0.92	0.37
d, Delay for Lane Group [s/veh]	46.56	28.88	47.05	30.21	37.81	27.05
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	9.45	5.96	8.19	5.38	13.31	4.00
50th-Percentile Queue Length [ft/ln]	236.33	149.10	204.70	134.54	332.76	99.99
95th-Percentile Queue Length [veh/ln]	14.50	9.97	12.88	9.19	19.29	7.20
95th-Percentile Queue Length [ft/ln]	362.40	249.23	322.02	229.65	482.34	179.98



**Movement, Approach, & Intersection Results**

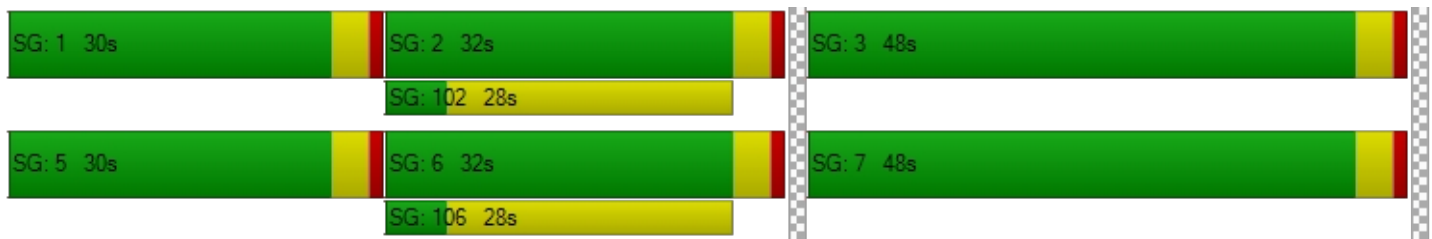
d_M, Delay for Movement [s/veh]	46.56	28.88	0.00	47.05	30.21	0.00	37.81	0.00	0.00	27.05	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	36.72			37.62			37.81			27.05		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	36.31											
Intersection LOS	D											
Intersection V/C	0.666											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			46.34			46.34		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.105			2.834		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	509			509			800			800		
d_b, Bicycle Delay [s]	30.53			30.53			19.77			19.77		
I_b,int, Bicycle LOS Score for Intersection	2.426			2.312			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	146	1235	88	550	875	156	190	194	58	49	243	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	6	97	107	11	3	19	2	3	12	37
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	24	0	0	43	0	0	15	0	0	99
Total Hourly Volume [veh/h]	149	1290	72	658	1000	127	197	217	46	53	260	295
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	345	19	176	267	34	53	58	12	14	70	79
Total Analysis Volume [veh/h]	159	1380	77	704	1070	136	211	232	49	57	278	316
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	19	40	0	35	56	0	15	45	0	10	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	62	62	29	83	83	10	18	18	4	13	46
g / C, Green / Cycle	0.06	0.48	0.48	0.22	0.64	0.64	0.08	0.14	0.14	0.03	0.10	0.35
(v / s)_i Volume / Saturation Flow Rate	0.05	0.21	0.21	0.20	0.22	0.22	0.06	0.06	0.03	0.02	0.08	0.11
s, saturation flow rate [veh/h]	3514	5176	1835	3514	3618	1793	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	217	2485	881	775	2311	1145	265	513	229	121	365	1007
d1, Uniform Delay [s]	59.94	22.18	22.19	49.38	10.90	10.92	59.12	51.15	49.37	61.62	56.94	30.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.71	0.55	1.55	4.47	0.42	0.84	5.40	0.62	0.46	2.85	3.32	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.73	0.43	0.43	0.91	0.35	0.35	0.80	0.45	0.21	0.47	0.76	0.31
d, Delay for Lane Group [s/veh]	64.65	22.73	23.74	53.85	11.32	11.76	64.52	51.77	49.83	64.48	60.26	30.85
Lane Group LOS	E	C	C	D	B	B	E	D	D	E	E	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.65	6.90	7.59	11.40	5.14	5.27	3.55	3.44	1.42	0.95	4.49	3.51
50th-Percentile Queue Length [ft/ln]	66.21	172.50	189.80	285.07	128.61	131.74	88.68	86.09	35.38	23.72	112.19	87.71
95th-Percentile Queue Length [veh/ln]	4.77	11.21	12.11	16.94	8.86	9.03	6.38	6.20	2.55	1.71	7.96	6.31
95th-Percentile Queue Length [ft/ln]	119.18	280.20	302.77	423.52	221.60	225.86	159.62	154.96	63.68	42.69	199.05	157.87

**Movement, Approach, & Intersection Results**

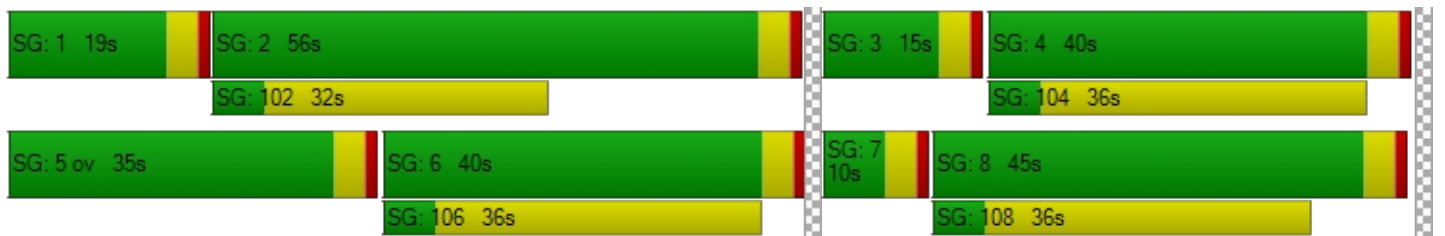
d_M, Delay for Movement [s/veh]	64.65	22.96	23.74	53.85	11.43	11.76	64.52	51.77	49.83	64.48	60.26	30.85
Movement LOS	E	C	C	D	B	B	E	D	D	E	E	C
d_A, Approach Delay [s/veh]	27.10			27.09			57.04			46.36		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	32.93											
Intersection LOS	C											
Intersection V/C	0.553											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.413	3.501	2.971	3.332
Crosswalk LOS	C	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	800	631	554
d_b, Bicycle Delay [s]	33.99	23.40	30.47	33.99
I_b,int, Bicycle LOS Score for Intersection	2.236	2.634	1.978	2.178
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.349

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1408	23	56	888	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	37	0	0	112	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1473	17	57	1018	10	48
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	388	4	15	268	3	13
Total Analysis Volume [veh/h]	1552	18	60	1073	11	51
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



Version 2021 (SP 0-2)

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	32	38	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	51	4	58	4	4
g / C, Green / Cycle	0.73	0.73	0.05	0.83	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.30	0.01	0.02	0.21	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3759	1173	179	4317	94	84
d1, Uniform Delay [s]	3.75	2.66	32.13	1.22	31.72	32.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.02	1.09	0.14	0.55	7.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.41	0.02	0.34	0.25	0.12	0.61
d, Delay for Lane Group [s/veh]	4.09	2.68	33.23	1.35	32.27	39.57
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.23	0.04	0.50	0.20	0.19	0.98
50th-Percentile Queue Length [ft/ln]	30.74	0.88	12.59	5.09	4.67	24.59
95th-Percentile Queue Length [veh/ln]	2.21	0.06	0.91	0.37	0.34	1.77
95th-Percentile Queue Length [ft/ln]	55.33	1.58	22.65	9.15	8.41	44.26

**Movement, Approach, & Intersection Results**

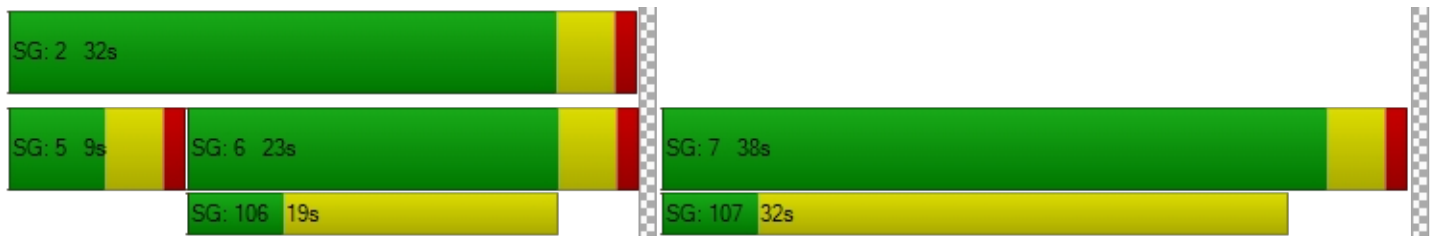
d_M, Delay for Movement [s/veh]	4.09	2.68	33.23	1.35	32.27	39.57
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	4.07		3.04		38.28	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.42					
Intersection LOS	A					
Intersection V/C	0.349					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.050	2.182
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	542	799	971
d_b, Bicycle Delay [s]	18.61	12.63	9.28
I_b,int, Bicycle LOS Score for Intersection	2.426	2.183	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.418

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1235	35	56	761	65	99	59	41	48	75	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	50	43	19	6	10	0	0	18	13
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	21	0	0	0	0	0	26
Total Hourly Volume [veh/h]	137	1278	36	107	819	64	107	70	42	49	95	79
Peak Hour Factor	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	342	10	29	219	17	29	19	11	13	25	21
Total Analysis Volume [veh/h]	147	1370	39	115	878	69	115	75	45	53	102	85
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	55	55	5	55	55	7	11	11	4	7	7
g / C, Green / Cycle	0.06	0.61	0.61	0.05	0.61	0.61	0.08	0.12	0.12	0.04	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.02	0.03	0.18	0.18	0.06	0.02	0.03	0.03	0.03	0.05
s, saturation flow rate [veh/h]	3459	5094	1589	3514	3560	1801	1810	3618	1589	1781	3618	1615
c, Capacity [veh/h]	196	3103	968	188	2158	1092	147	426	187	75	283	126
d1, Uniform Delay [s]	41.92	9.42	7.06	41.76	8.49	8.49	40.62	35.84	36.12	42.64	39.42	40.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.73	0.46	0.08	3.19	0.34	0.68	8.60	0.20	0.66	11.50	0.77	6.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.44	0.04	0.61	0.29	0.29	0.78	0.18	0.24	0.71	0.36	0.67
d, Delay for Lane Group [s/veh]	47.65	9.88	7.14	44.95	8.83	9.17	49.22	36.04	36.78	54.14	40.19	46.48
Lane Group LOS	D	A	A	D	A	A	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.75	4.41	0.30	1.32	2.75	2.89	2.82	0.75	0.92	1.39	1.09	2.02
50th-Percentile Queue Length [ft/ln]	43.69	110.36	7.38	33.02	68.67	72.25	70.57	18.68	23.09	34.81	27.25	50.61
95th-Percentile Queue Length [veh/ln]	3.15	7.86	0.53	2.38	4.94	5.20	5.08	1.34	1.66	2.51	1.96	3.64
95th-Percentile Queue Length [ft/ln]	78.64	196.50	13.28	59.43	123.61	130.05	127.02	33.62	41.57	62.65	49.05	91.10

**Movement, Approach, & Intersection Results**

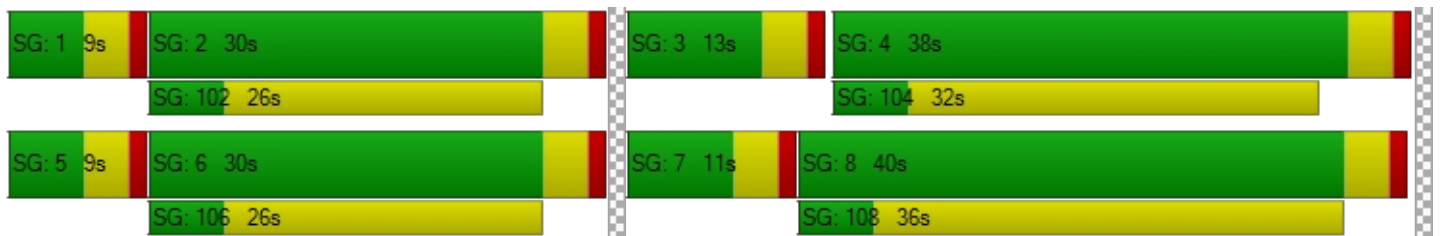
d_M, Delay for Movement [s/veh]	47.65	9.88	7.14	44.95	8.93	9.17	49.22	36.04	36.78	54.14	40.19	46.48
Movement LOS	D	A	A	D	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	13.38			12.84			42.63			45.50		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.91											
Intersection LOS	B											
Intersection V/C	0.418											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.125	3.083	2.548	2.572
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	799	755
d_b, Bicycle Delay [s]	22.80	22.80	16.24	17.46
I_b,int, Bicycle LOS Score for Intersection	2.415	2.155	1.753	1.779
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	3	3	11	0	10	9	177	3	8	203	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	4	0	0	0	0	87	24	13	40	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	3	7	11	0	10	9	268	27	21	247	10
Peak Hour Factor	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	2	3	0	3	3	78	8	6	72	3
Total Analysis Volume [veh/h]	13	4	8	13	0	12	11	314	32	25	289	12
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	673	686	831	818
Degree of Utilization, x	0.04	0.04	0.43	0.40

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.12	0.11	2.18	1.93
95th-Percentile Queue Length [ft]	2.89	2.83	54.50	48.18
Approach Delay [s/veh]	8.55	8.45	10.56	10.29
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	10.30			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.533

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	18	2	0	58	0	0	52	38	0	42	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	186	33	6	133	5	5	135	113	62	173	19
Peak Hour Factor	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	52	9	2	37	1	1	38	32	17	48	5
Total Analysis Volume [veh/h]	79	208	37	7	149	6	6	151	126	69	194	21
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	608	572	628	602
Degree of Utilization, x	0.53	0.28	0.45	0.47

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.15	1.16	2.34	2.52
95th-Percentile Queue Length [ft]	78.69	28.98	58.39	62.99
Approach Delay [s/veh]	15.49	11.76	13.35	14.21
Approach LOS	C	B	B	B
Intersection Delay [s/veh]	14.00			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	39.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.659

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↶		↷		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	208	39	22	177	37	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	2.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	30	65	15	75	200	60
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	105	37	256	238	98
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	29	10	70	65	27
Total Analysis Volume [veh/h]	266	115	41	281	261	108
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.66	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	8.14	0.00	39.76	35.65
Movement LOS	A	A	A	A	E	E
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.11	0.11	7.51	7.51
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.68	2.68	187.71	187.71
d_A, Approach Delay [s/veh]	0.00		1.04		38.56	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	13.58					
Intersection LOS	E					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	8	10	6	12	26	5	110	6	8	172	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	10	0	6	2	39	13	0	33	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	8	10	16	12	33	7	151	19	8	208	18
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	3	4	3	9	2	39	5	2	54	5
Total Analysis Volume [veh/h]	13	8	10	17	13	34	7	158	20	8	217	19
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**




V/C, Movement V/C Ratio	0.03	0.02	0.01	0.03	0.03	0.04	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.73	12.39	9.44	12.56	12.66	10.02	7.69	0.00	0.00	7.57	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.17	0.33	0.33	0.33	0.02	0.02	0.02	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	4.24	4.24	4.24	8.27	8.27	8.27	0.39	0.39	0.39	0.43	0.43	0.43
d_A, Approach Delay [s/veh]	11.58			11.23			0.29			0.25		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.28											
Intersection LOS	B											



**Intersection Level Of Service Report**  
**Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.127

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	26	4	1	61	76	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	75	265	25
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	4	1	137	343	31
Peak Hour Factor	0.6840	0.6840	0.6840	0.6840	0.6840	0.6840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	1	0	50	125	11
Total Analysis Volume [veh/h]	50	6	1	200	501	45
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	15.54	12.86	8.49	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.47	0.47	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.84	11.84	0.07	0.07	0.00	0.00
d_A, Approach Delay [s/veh]	15.25		0.04		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.07					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.662

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	7	0	0	0	84	0	0	297	24
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	39	5	21	18	13	1	157	6	3	363	41
Peak Hour Factor	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	12	2	7	6	4	0	50	2	1	116	13
Total Analysis Volume [veh/h]	6	50	6	27	23	17	1	201	8	4	464	52
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	631	636	670	771	707	821
Degree of Utilization, x	0.10	0.11	0.30	0.01	0.66	0.06

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.33	0.35	1.27	0.03	5.03	0.20
95th-Percentile Queue Length [ft]	8.14	8.79	31.68	0.79	125.87	5.06
Approach Delay [s/veh]	9.33	9.33	10.26		16.22	
Approach LOS	A	A	B		C	
Intersection Delay [s/veh]	13.73					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	82.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.129

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	67	31	0	0	91	0	0	0	0	183	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	258	0	0	0	0	0	124
Total Hourly Volume [veh/h]	446	1212	0	0	1341	774	0	0	0	529	5	372
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	313	0	0	347	200	0	0	0	137	1	96
Total Analysis Volume [veh/h]	461	1253	0	0	1387	800	0	0	0	547	5	385
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	30	85	0	0	55	0	0	0	0	0	40	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	125	125	125	125		125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	26	81	51	51		36	36
g / C, Green / Cycle	0.21	0.65	0.41	0.41		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.28	0.39	0.28	0.52		0.32	0.25
s, saturation flow rate [veh/h]	1619	3237	4903	1530		1715	1530
c, Capacity [veh/h]	337	2097	1999	624		494	441
d1, Uniform Delay [s]	49.45	12.63	30.56	36.99		44.47	42.31
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.36
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	183.13	1.26	2.01	139.13		76.81	16.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.37	0.60	0.69	1.28		1.12	0.87
d, Delay for Lane Group [s/veh]	232.58	13.89	32.57	176.13		121.28	58.38
Lane Group LOS	F	B	C	F		F	E
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	27.63	9.91	11.76	42.71		25.68	13.20
50th-Percentile Queue Length [ft/ln]	690.79	247.75	294.10	1067.83		641.98	329.93
95th-Percentile Queue Length [veh/ln]	42.04	15.07	17.39	62.70		36.40	19.15
95th-Percentile Queue Length [ft/ln]	1050.93	376.81	434.73	1567.46		910.06	478.87



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	232.58	13.89	0.00	0.00	32.57	176.13	0.00	0.00	0.00	121.28	121.28	58.38
Movement LOS	F	B			C	F				F	F	E
d_A, Approach Delay [s/veh]	72.71			85.08			0.00			95.43		
Approach LOS	E			F			A			F		
d_I, Intersection Delay [s/veh]	82.70											
Intersection LOS	F											
Intersection V/C	1.129											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	53.80	53.80
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.475	2.479
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1296	816	0	576
d_b, Bicycle Delay [s]	7.73	21.89	62.48	31.66
I_b,int, Bicycle LOS Score for Intersection	2.974	2.904	4.132	3.310
Bicycle LOS	C	C	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	56.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.913

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1001	385	485	1080	0	530	4	441	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	98	62	0	275	0	0	0	204	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	114	0	0	0	0	0	164	0	0	0
Total Hourly Volume [veh/h]	0	1119	341	495	1377	0	541	4	490	0	0	0
Peak Hour Factor	1.0000	0.9630	0.9630	0.9630	0.9630	1.0000	0.9630	0.9630	0.9630	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	290	89	129	357	0	140	1	127	0	0	0
Total Analysis Volume [veh/h]	0	1162	354	514	1430	0	562	4	509	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	36	64	0	0	36	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	24	24	32	60	32	32	
g / C, Green / Cycle	0.24	0.24	0.32	0.60	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.23	0.32	0.42	0.32	0.36	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1544	
c, Capacity [veh/h]	1178	368	518	2057	518	494	
d1, Uniform Delay [s]	37.83	37.56	33.89	13.72	34.01	34.01	
k, delay calibration	0.50	0.50	0.45	0.50	0.46	0.50	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	23.20	38.53	35.63	1.97	39.95	77.51	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.99	0.96	0.99	0.70	1.01	1.12	
d, Delay for Lane Group [s/veh]	61.03	76.08	69.52	15.69	73.96	111.52	
Lane Group LOS	E	E	E	B	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	11.78	12.33	17.18	10.65	17.94	22.25	
50th-Percentile Queue Length [ft/ln]	294.54	308.18	429.51	266.37	448.43	556.34	
95th-Percentile Queue Length [veh/ln]	17.41	18.09	23.98	16.01	25.02	32.19	
95th-Percentile Queue Length [ft/ln]	435.27	452.13	599.45	400.21	625.43	804.65	

**Movement, Approach, & Intersection Results**

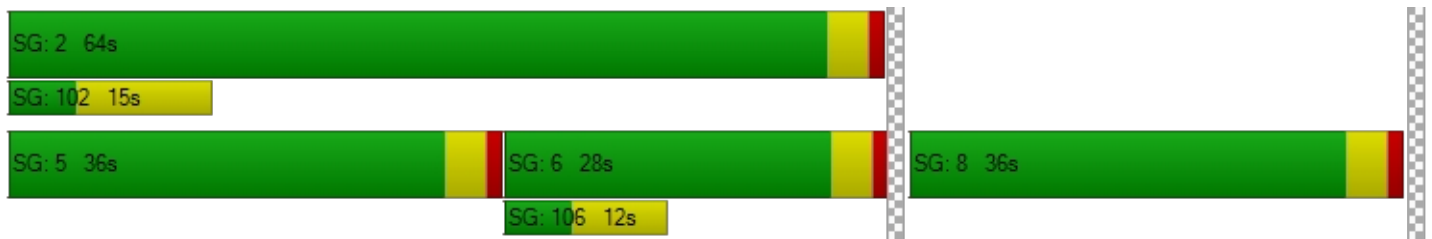
d_M, Delay for Movement [s/veh]	0.00	61.03	76.08	69.52	15.69	0.00	75.69	111.52	111.52	0.00	0.00	0.00
Movement LOS		E	E	E	B		E	F	F			
d_A, Approach Delay [s/veh]		64.55		29.92			93.27			0.00		
Approach LOS		E		C			F			A		
d_I, Intersection Delay [s/veh]	56.51											
Intersection LOS	E											
Intersection V/C	0.913											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.583	2.202
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	480	1200	640	0
d_b, Bicycle Delay [s]	28.88	8.00	23.12	50.00
I_b,int, Bicycle LOS Score for Intersection	2.456	3.163	3.604	4.132
Bicycle LOS	B	C	D	D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.616

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1205	4	80	1236	190	92	0	32	0	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	160	0	0	479	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	9	1389	3	82	1740	194	94	0	33	0	0	76
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	369	1	22	462	51	25	0	9	0	0	20
Total Analysis Volume [veh/h]	10	1475	3	87	1847	206	100	0	35	0	0	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	13	19	0	0	51	0	0	51	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	64	56	56	64	59	59	8	8	8
g / C, Green / Cycle	0.80	0.69	0.69	0.80	0.74	0.74	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.03	0.41	0.41	0.18	0.54	0.14	0.08	0.02	0.05
s, saturation flow rate [veh/h]	315	1800	1799	489	3427	1506	1317	1506	1506
c, Capacity [veh/h]	299	1248	1247	438	2516	1106	129	154	198
d1, Uniform Delay [s]	6.21	6.39	6.39	4.46	6.13	3.28	35.09	33.06	34.13
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	2.07	2.07	1.02	1.94	0.37	9.60	0.75	1.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.03	0.59	0.59	0.20	0.73	0.19	0.78	0.23	0.41
d, Delay for Lane Group [s/veh]	6.26	8.46	8.46	5.47	8.07	3.65	44.69	33.81	35.47
Lane Group LOS	A	A	A	A	A	A	D	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.02	5.63	5.63	0.27	6.70	0.83	2.20	0.64	1.54
50th-Percentile Queue Length [ft/ln]	0.50	140.68	140.64	6.77	167.38	20.78	55.01	16.10	38.43
95th-Percentile Queue Length [veh/ln]	0.04	9.52	9.52	0.49	10.94	1.50	3.96	1.16	2.77
95th-Percentile Queue Length [ft/ln]	0.89	237.94	237.89	12.18	273.46	37.40	99.01	28.99	69.17

**Movement, Approach, & Intersection Results**

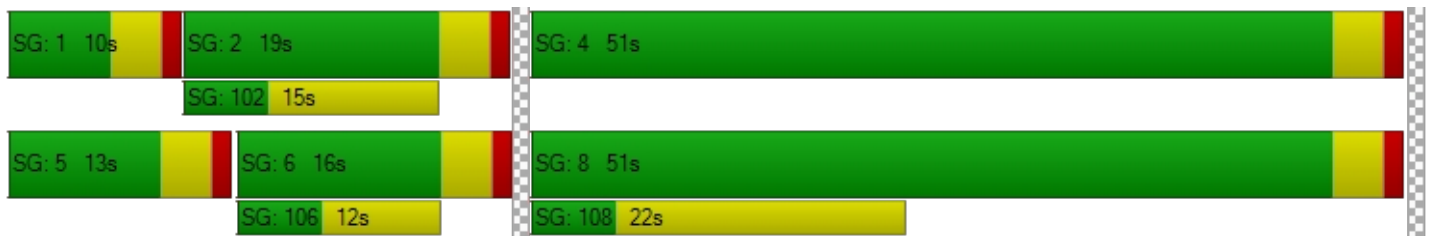
d_M, Delay for Movement [s/veh]	6.26	8.46	8.46	5.47	8.07	3.65	44.69	33.81	33.81	35.47	35.47	35.47
Movement LOS	A	A	A	A	A	A	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	8.44			7.54			41.87			35.47		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	9.69											
Intersection LOS	A											
Intersection V/C	0.616											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.53	0.00	31.53	31.53
I_p,int, Pedestrian LOS Score for Intersection	2.954	0.000	2.061	1.931
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	375	1174	1174
d_b, Bicycle Delay [s]	28.92	26.43	6.82	6.82
I_b,int, Bicycle LOS Score for Intersection	2.788	3.325	1.782	1.735
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	62.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.871

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	101	3	20	327	132	57	7	31	1	8	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	971	15	224	1308	261	229	84	86	11	127	198
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	259	4	60	349	70	61	22	23	3	34	53
Total Analysis Volume [veh/h]	124	1036	16	239	1396	279	244	90	92	12	136	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	42	0	24	53	0	24	42	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	45	45	20	56	56	20	37	37	2	19	19
g / C, Green / Cycle	0.08	0.38	0.38	0.16	0.47	0.47	0.17	0.31	0.31	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.30	0.30	0.15	0.47	0.50	0.15	0.03	0.06	0.01	0.08	0.14
s, saturation flow rate [veh/h]	1593	1772	1762	1593	1772	1673	1593	3373	1506	1593	1772	1506
c, Capacity [veh/h]	121	667	663	262	825	779	266	1049	468	23	281	239
d1, Uniform Delay [s]	55.49	33.23	33.24	49.29	32.09	32.09	49.20	29.28	30.36	58.72	46.02	49.41
k, delay calibration	0.11	0.50	0.50	0.16	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	45.65	9.28	9.34	15.84	35.84	53.82	17.13	0.03	0.20	16.26	1.29	11.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.03	0.79	0.79	0.91	1.02	1.07	0.92	0.09	0.20	0.51	0.48	0.88
d, Delay for Lane Group [s/veh]	101.14	42.52	42.58	65.12	67.93	85.92	66.33	29.32	30.56	74.98	47.30	61.26
Lane Group LOS	F	D	D	E	F	F	E	C	C	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.17	15.15	15.09	8.18	31.22	33.38	8.44	0.93	1.99	0.47	3.81	6.96
50th-Percentile Queue Length [ft/ln]	129.32	378.87	377.20	204.41	780.58	834.42	210.98	23.34	49.85	11.71	95.21	174.09
95th-Percentile Queue Length [veh/ln]	8.99	21.54	21.46	12.87	40.96	45.25	13.20	1.68	3.59	0.84	6.85	11.29
95th-Percentile Queue Length [ft/ln]	224.64	538.48	536.46	321.65	1023.89	1131.20	330.08	42.01	89.74	21.07	171.37	282.28

**Movement, Approach, & Intersection Results**

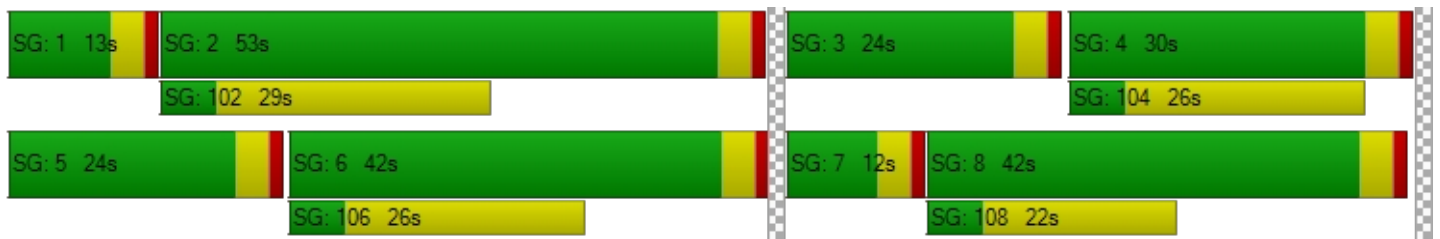
d_M, Delay for Movement [s/veh]	101.14	42.55	42.58	65.12	75.10	85.92	66.33	29.32	30.56	74.98	47.30	61.26
Movement LOS	F	D	D	E	E	F	E	C	C	E	D	E
d_A, Approach Delay [s/veh]	48.72			75.43			50.79			56.43		
Approach LOS	D			E			D			E		
d_I, Intersection Delay [s/veh]	62.86											
Intersection LOS	E											
Intersection V/C	0.871											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.35	51.35	51.35	51.35
I_p,int, Pedestrian LOS Score for Intersection	2.837	3.021	2.744	2.583
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	816	633	433
d_b, Bicycle Delay [s]	28.03	21.02	28.03	36.83
I_b,int, Bicycle LOS Score for Intersection	2.530	3.139	1.911	1.856
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	18	62	871	53	63	43	47	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	118	0	0	350	13	6	1	43	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	914	18	63	1238	67	70	45	91	10	69	39
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	238	5	16	323	17	18	12	24	3	18	10
Total Analysis Volume [veh/h]	100	953	19	66	1291	70	73	47	95	10	72	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	16	0	18	22	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	35	35	3	34	34	10	10
g / C, Green / Cycle	0.08	0.58	0.58	0.06	0.56	0.56	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.28	0.28	0.04	0.39	0.39	0.13	0.07
s, saturation flow rate [veh/h]	1593	1772	1759	1593	1772	1740	1623	1734
c, Capacity [veh/h]	126	1033	1025	90	993	976	341	343
d1, Uniform Delay [s]	27.20	7.21	7.21	27.89	9.45	9.47	24.23	22.81
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.85	1.55	1.56	10.72	3.92	4.04	1.92	0.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.47	0.47	0.73	0.69	0.69	0.63	0.36
d, Delay for Lane Group [s/veh]	38.06	8.76	8.77	38.60	13.37	13.51	26.16	23.44
Lane Group LOS	D	A	A	D	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.71	3.18	3.16	1.15	6.03	5.98	2.92	1.47
50th-Percentile Queue Length [ft/ln]	42.78	79.40	78.94	28.86	150.75	149.62	72.91	36.86
95th-Percentile Queue Length [veh/ln]	3.08	5.72	5.68	2.08	10.06	10.00	5.25	2.65
95th-Percentile Queue Length [ft/ln]	77.00	142.92	142.09	51.94	251.42	249.92	131.23	66.35

**Movement, Approach, & Intersection Results**

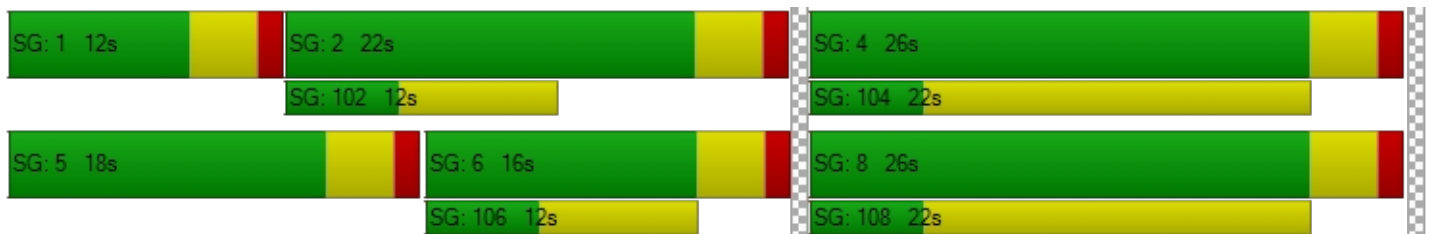
d_M, Delay for Movement [s/veh]	38.06	8.77	8.77	38.60	13.44	13.51	26.16	26.16	26.16	23.44	23.44	23.44
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.50			14.60			26.16			23.44		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.69											
Intersection LOS	B											
Intersection V/C	0.584											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.776			2.871			1.918			1.861		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			600			733			733		
d_b, Bicycle Delay [s]	19.22			14.72			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.444			2.737			1.914			1.763		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	176.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.419

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↑			↵ ↑			↑ ↵			↑ ↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	121	95	0	0	218	177	49	7	34	0	23	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	0	0	0	14	0	0	0
Total Hourly Volume [veh/h]	136	855	25	94	1045	200	102	42	42	31	61	50
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	233	7	26	284	54	28	11	11	8	17	14
Total Analysis Volume [veh/h]	148	930	27	102	1137	218	111	46	46	34	66	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	15	15	5	15	15	28	28	28	28
g / C, Green / Cycle	0.08	0.26	0.26	0.08	0.25	0.25	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.09	0.27	0.27	0.06	0.39	0.40	2.93	0.03	0.40	0.04
s, saturation flow rate [veh/h]	1619	1772	1754	1593	1772	1674	54	1530	250	1506
c, Capacity [veh/h]	135	454	450	125	446	422	127	711	197	700
d1, Uniform Delay [s]	27.50	22.31	22.31	27.20	22.44	22.44	24.63	8.86	13.91	8.91
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.30	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	65.38	58.47	58.74	11.81	258.69	268.65	155.41	0.04	5.63	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.10	1.06	1.06	0.81	1.55	1.57	1.23	0.06	0.51	0.08
d, Delay for Lane Group [s/veh]	92.88	80.78	81.04	39.02	281.13	291.09	180.05	8.90	19.54	8.96
Lane Group LOS	F	F	F	D	F	F	F	A	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	4.27	13.20	13.10	1.77	37.79	36.89	7.25	0.29	0.98	0.35
50th-Percentile Queue Length [ft/ln]	106.86	330.00	327.56	44.27	944.81	922.16	181.27	7.32	24.40	8.66
95th-Percentile Queue Length [veh/ln]	7.69	19.78	19.66	3.19	58.68	57.61	13.05	0.53	1.76	0.62
95th-Percentile Queue Length [ft/ln]	192.36	494.58	491.53	79.68	1466.89	1440.21	326.29	13.18	43.92	15.58

**Movement, Approach, & Intersection Results**

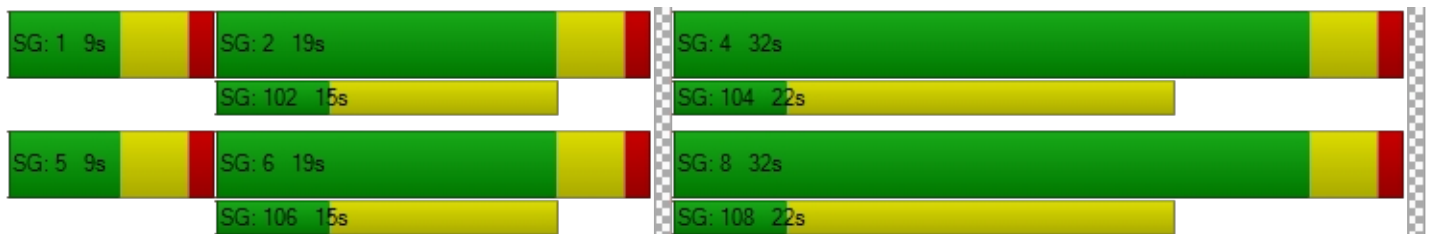
d_M, Delay for Movement [s/veh]	92.88	80.91	81.04	39.02	285.03	291.09	180.05	180.05	8.90	19.54	19.54	8.96
Movement LOS	F	F	F	D	F	F	F	F	A	B	B	A
d_A, Approach Delay [s/veh]	82.51			268.72			141.27			15.83		
Approach LOS	F			F			F			B		
d_I, Intersection Delay [s/veh]	176.02											
Intersection LOS	F											
Intersection V/C	3.419											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.797	2.936	2.152	2.030
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	933	933
d_b, Bicycle Delay [s]	16.88	16.88	8.53	8.53
I_b,int, Bicycle LOS Score for Intersection	2.478	2.762	1.918	1.814
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.445

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	23	755	1	19	805	19	79	29	25	21	16	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	214	0	0	251	1	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	5	0	0	7	0	0	5
Total Hourly Volume [veh/h]	23	984	1	19	1072	15	83	30	19	21	16	13
Peak Hour Factor	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	275	0	5	299	4	23	8	5	6	4	4
Total Analysis Volume [veh/h]	26	1098	1	21	1196	17	93	33	21	23	18	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	40	40	2	39	39	7	7
g / C, Green / Cycle	0.03	0.66	0.66	0.03	0.66	0.66	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.31	0.31	0.01	0.34	0.34	0.09	0.03
s, saturation flow rate [veh/h]	1619	1800	1799	1619	1800	1791	1621	1712
c, Capacity [veh/h]	49	1188	1188	42	1180	1174	283	281
d1, Uniform Delay [s]	28.70	5.00	5.00	28.89	5.39	5.39	25.75	24.35
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.48	1.30	1.30	9.12	1.61	1.62	1.47	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.46	0.46	0.50	0.52	0.52	0.52	0.20
d, Delay for Lane Group [s/veh]	37.18	6.30	6.30	38.01	7.00	7.01	27.22	24.69
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	2.61	2.61	0.39	3.13	3.12	2.03	0.72
50th-Percentile Queue Length [ft/ln]	11.68	65.30	65.28	9.75	78.34	78.06	50.74	17.90
95th-Percentile Queue Length [veh/ln]	0.84	4.70	4.70	0.70	5.64	5.62	3.65	1.29
95th-Percentile Queue Length [ft/ln]	21.03	117.54	117.51	17.55	141.01	140.51	91.33	32.22

**Movement, Approach, & Intersection Results**

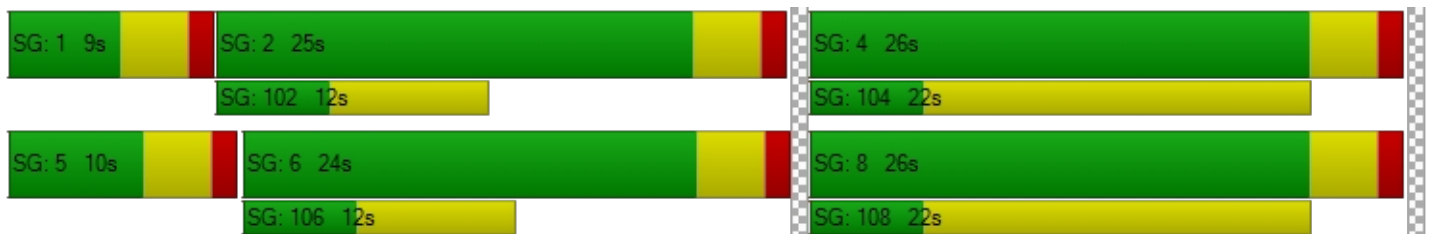
d_M, Delay for Movement [s/veh]	37.18	6.30	6.30	38.01	7.01	7.01	27.22	27.22	27.22	24.69	24.69	24.69
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.01			7.53			27.22			24.69		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.81											
Intersection LOS	A											
Intersection V/C	0.445											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.776			2.898			1.813			1.759		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.488			2.582			1.814			1.660		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	38	677	7	14	808	23	34	12	75	43	11	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	202	2	1	248	3	10	0	37	2	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	0	0	0	0	0	0	4
Total Hourly Volume [veh/h]	74	893	7	15	1072	26	45	12	114	46	11	10
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	238	2	4	285	7	12	3	30	12	3	3
Total Analysis Volume [veh/h]	79	951	7	16	1142	28	48	13	121	49	12	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	25	0	9	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	38	38	1	36	36	9	9
g / C, Green / Cycle	0.06	0.64	0.64	0.02	0.60	0.60	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.27	0.01	0.33	0.33	0.11	0.06
s, saturation flow rate [veh/h]	1593	1800	1795	1619	1800	1785	1588	1227
c, Capacity [veh/h]	99	1146	1143	33	1071	1062	303	276
d1, Uniform Delay [s]	27.79	5.41	5.41	29.10	7.32	7.32	24.82	23.19
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.27	1.13	1.13	10.30	2.02	2.04	1.91	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.79	0.42	0.42	0.48	0.55	0.55	0.60	0.26
d, Delay for Lane Group [s/veh]	41.06	6.53	6.54	39.40	9.34	9.36	26.73	23.69
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.43	2.42	2.41	0.31	3.95	3.93	2.50	0.91
50th-Percentile Queue Length [ft/ln]	35.68	60.40	60.27	7.82	98.80	98.16	62.45	22.65
95th-Percentile Queue Length [veh/ln]	2.57	4.35	4.34	0.56	7.11	7.07	4.50	1.63
95th-Percentile Queue Length [ft/ln]	64.22	108.72	108.48	14.08	177.84	176.68	112.40	40.76

**Movement, Approach, & Intersection Results**

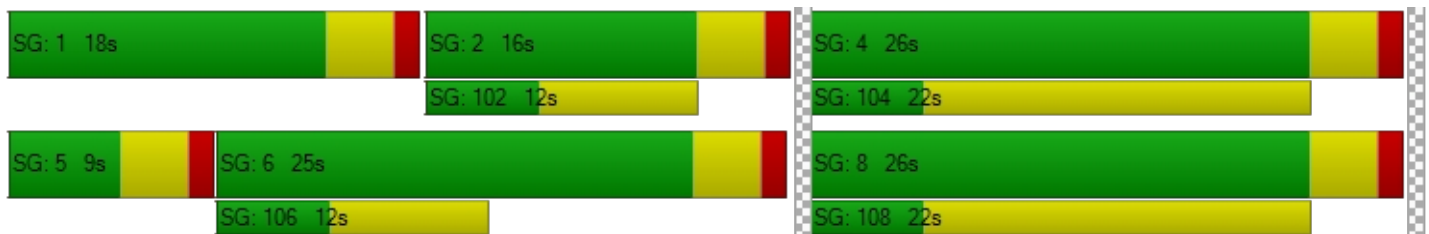
d_M, Delay for Movement [s/veh]	41.06	6.53	6.54	39.40	9.35	9.36	26.73	26.73	26.73	23.69	23.69	23.69
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.16			9.76			26.73			23.69		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.16											
Intersection LOS	B											
Intersection V/C	0.491											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.812			2.778			1.842			1.757		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			400			733			733		
d_b, Bicycle Delay [s]	12.69			19.22			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.417			2.538			1.860			1.685		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	35.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.770

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	630	97	129	806	5	8	0	9	141	1	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	176	160	177	110	0	0	0	0	52	0	62
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	65	0	0	1	0	0	2	0	0	27
Total Hourly Volume [veh/h]	4	819	194	309	932	4	8	0	7	196	1	81
Peak Hour Factor	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	232	55	87	264	1	2	0	2	55	0	23
Total Analysis Volume [veh/h]	5	928	220	350	1055	5	9	0	8	222	1	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	19	0	15	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	22	22	11	32	32	15	15	15
g / C, Green / Cycle	0.01	0.36	0.36	0.18	0.54	0.54	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.00	0.33	0.33	0.22	0.29	0.29	0.07	0.22	0.06
s, saturation flow rate [veh/h]	1619	1800	1682	1619	1800	1797	234	999	1530
c, Capacity [veh/h]	12	649	606	297	966	964	152	376	392
d1, Uniform Delay [s]	29.68	18.32	18.34	24.51	9.14	9.14	18.24	21.39	17.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.17	19.59	20.87	87.97	2.24	2.25	0.32	1.50	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.91	0.92	1.18	0.55	0.55	0.11	0.59	0.23
d, Delay for Lane Group [s/veh]	52.85	37.91	39.21	112.48	11.38	11.39	18.56	22.89	17.97
Lane Group LOS	D	D	D	F	B	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.14	10.42	9.97	11.17	4.25	4.25	0.18	2.89	0.96
50th-Percentile Queue Length [ft/ln]	3.58	260.41	249.34	279.13	106.23	106.13	4.42	72.17	24.08
95th-Percentile Queue Length [veh/ln]	0.26	15.71	15.15	17.94	7.63	7.62	0.32	5.20	1.73
95th-Percentile Queue Length [ft/ln]	6.45	392.73	378.82	448.40	190.75	190.61	7.96	129.90	43.34



**Movement, Approach, & Intersection Results**

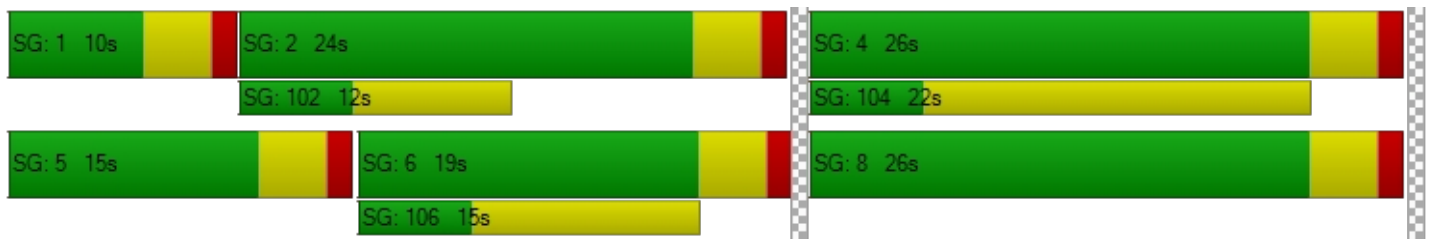
d_M, Delay for Movement [s/veh]	52.85	38.38	39.21	112.48	11.39	11.39	18.56	18.56	18.56	22.89	22.89	17.97
Movement LOS	D	D	D	F	B	B	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	38.60			36.48			18.56			21.45		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	35.58											
Intersection LOS	D											
Intersection V/C	0.770											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.69	21.69	21.69
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.776	1.714	2.277
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	666	733	733
d_b, Bicycle Delay [s]	16.88	13.34	12.04	12.04
I_b,int, Bicycle LOS Score for Intersection	2.564	2.724	1.591	2.124
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	73.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	166	73	82	80	0	0	0	0	20	0	170
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	7	0	0	0	0	0	165
Total Hourly Volume [veh/h]	42	438	433	557	468	20	29	66	27	235	101	496
Peak Hour Factor	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	125	124	159	134	6	8	19	8	67	29	142
Total Analysis Volume [veh/h]	48	500	494	636	534	23	33	75	31	268	115	566
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	69	43	0	47	21	0	0	12	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	39	39	43	77	77	8	8	24
g / C, Green / Cycle	0.04	0.30	0.30	0.33	0.60	0.60	0.06	0.06	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.31	0.35	0.15	0.01	0.02	0.06	0.21
s, saturation flow rate [veh/h]	1781	3560	1589	1810	3560	1615	1810	1807	1836
c, Capacity [veh/h]	63	1072	479	597	2120	962	110	110	339
d1, Uniform Delay [s]	62.13	36.93	45.43	43.55	12.51	10.79	58.38	60.88	53.00
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.38
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.54	1.46	49.60	55.33	0.29	0.05	1.49	31.24	83.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.76	0.47	1.03	1.06	0.25	0.02	0.30	0.96	1.13
d, Delay for Lane Group [s/veh]	78.67	38.39	95.03	98.88	12.79	10.83	59.87	92.12	136.07
Lane Group LOS	E	D	F	F	B	B	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.87	6.72	21.92	28.16	3.77	0.29	1.09	4.45	18.87
50th-Percentile Queue Length [ft/ln]	46.69	168.10	548.00	704.08	94.14	7.14	27.21	111.25	471.70
95th-Percentile Queue Length [veh/ln]	3.36	10.98	30.22	38.48	6.78	0.51	1.96	7.91	27.66
95th-Percentile Queue Length [ft/ln]	84.04	274.41	755.39	961.88	169.46	12.86	48.98	197.73	691.48

**Movement, Approach, & Intersection Results**

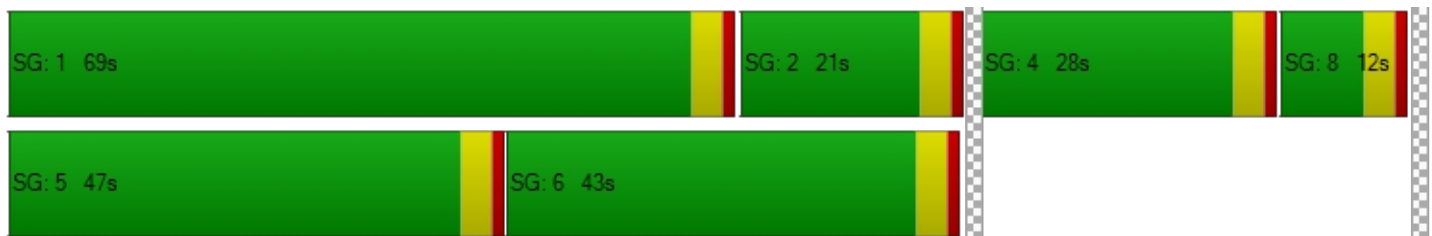
d_M, Delay for Movement [s/veh]	78.67	38.39	95.03	98.88	12.79	10.83	59.87	92.12	92.12	136.07	136.07	0.00
Movement LOS	E	D	F	F	B	B	E	F	F	F	F	
d_A, Approach Delay [s/veh]	67.10			58.65			84.46			136.07		
Approach LOS	E			E			F			F		
d_I, Intersection Delay [s/veh]	73.90											
Intersection LOS	E											
Intersection V/C	0.930											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			262			123			369		
d_b, Bicycle Delay [s]	31.85			49.11			57.25			43.22		
I_b,int, Bicycle LOS Score for Intersection	2.419			2.550			1.789			2.192		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	34.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.831

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	5	163	17	227	359	505	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	48	0	22	80	77	0	0	168	169
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	5	0	0	0
Total Hourly Volume [veh/h]	9	5	5	214	17	254	446	592	16	5	730	394
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	59	5	70	123	164	4	1	202	109
Total Analysis Volume [veh/h]	10	6	6	237	19	281	493	655	18	6	808	436
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	46	55	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27	29	56	56	1	28	28
g / C, Green / Cycle	0.28	0.28	0.28	0.30	0.59	0.59	0.01	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.28	0.18	0.28	0.18	0.01	0.00	0.23	0.27
s, saturation flow rate [veh/h]	190	914	1589	1781	3560	1615	1781	3560	1589
c, Capacity [veh/h]	108	328	444	536	2084	945	16	1045	466
d1, Uniform Delay [s]	27.97	34.50	29.97	32.11	10.01	8.26	46.83	30.69	32.69
k, delay calibration	0.50	0.50	0.50	0.18	0.11	0.11	0.11	0.11	0.35
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.21	16.60	6.71	10.95	0.09	0.01	14.13	1.26	22.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.20	0.78	0.63	0.92	0.31	0.02	0.38	0.77	0.93
d, Delay for Lane Group [s/veh]	32.17	51.10	36.67	43.06	10.10	8.27	60.96	31.94	55.00
Lane Group LOS	C	D	D	D	B	A	E	C	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.49	7.29	6.33	12.24	3.25	0.15	0.20	8.42	12.36
50th-Percentile Queue Length [ft/ln]	12.14	182.34	158.37	306.10	81.31	3.71	5.06	210.48	309.01
95th-Percentile Queue Length [veh/ln]	0.87	11.72	10.46	17.98	5.85	0.27	0.36	13.18	18.13
95th-Percentile Queue Length [ft/ln]	21.86	293.07	261.57	449.57	146.36	6.68	9.12	329.45	453.15

**Movement, Approach, & Intersection Results**

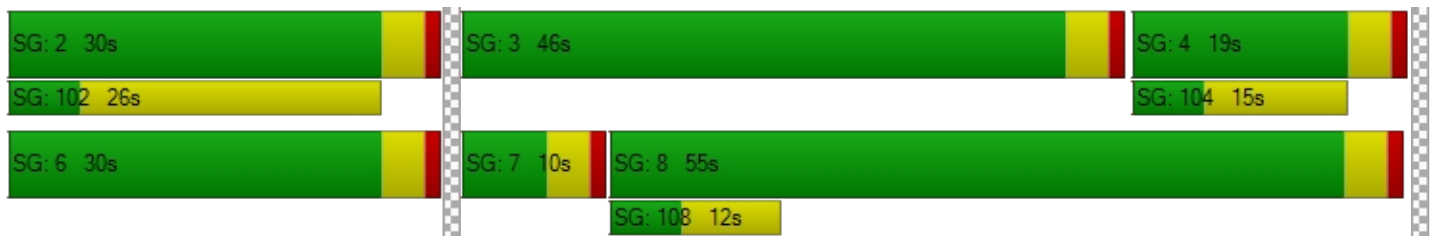
d_M, Delay for Movement [s/veh]	32.17	32.17	32.17	51.10	51.10	36.67	43.06	10.10	8.27	60.96	31.94	55.00
Movement LOS	C	C	C	D	D	D	D	B	A	E	C	E
d_A, Approach Delay [s/veh]	32.17			43.55			24.01			40.12		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	34.37											
Intersection LOS	C											
Intersection V/C	0.831											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	38.93	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.753	2.423	2.847	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	547	1074	316
d_b, Bicycle Delay [s]	25.06	25.06	10.19	33.69
I_b,int, Bicycle LOS Score for Intersection	1.596	2.446	2.526	2.591
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	26.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	331	0	0	115	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	0	0	0	21	0	0	0
Total Hourly Volume [veh/h]	80	1119	155	31	758	0	4	31	63	103	17	21
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	302	42	8	204	0	1	8	17	28	5	6
Total Analysis Volume [veh/h]	86	1207	167	33	818	0	4	33	68	111	18	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	39	62	0	9	32	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	84	84	3	80	80	7	7	9	9
g / C, Green / Cycle	0.06	0.70	0.70	0.03	0.67	0.67	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.05	0.65	0.10	0.02	0.44	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1890	1615	1810	1729
c, Capacity [veh/h]	111	1312	1133	50	1249	1062	110	94	142	136
d1, Uniform Delay [s]	55.50	15.09	5.97	57.74	11.75	0.00	54.28	55.55	54.27	52.18
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.76	11.90	0.27	13.54	2.69	0.00	1.77	9.90	8.87	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.77	0.92	0.15	0.66	0.65	0.00	0.34	0.72	0.78	0.30
d, Delay for Lane Group [s/veh]	66.26	26.99	6.24	71.28	14.43	0.00	56.05	65.45	63.14	53.41
Lane Group LOS	E	C	A	E	B	A	E	E	E	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.90	28.35	1.40	1.18	12.80	0.00	1.13	2.28	3.64	1.22
50th-Percentile Queue Length [ft/ln]	72.44	708.69	35.01	29.54	320.06	0.00	28.26	57.08	91.06	30.38
95th-Percentile Queue Length [veh/ln]	5.22	37.08	2.52	2.13	18.67	0.00	2.03	4.11	6.56	2.19
95th-Percentile Queue Length [ft/ln]	130.40	926.98	63.01	53.18	466.76	0.00	50.86	102.75	163.90	54.69

**Movement, Approach, & Intersection Results**

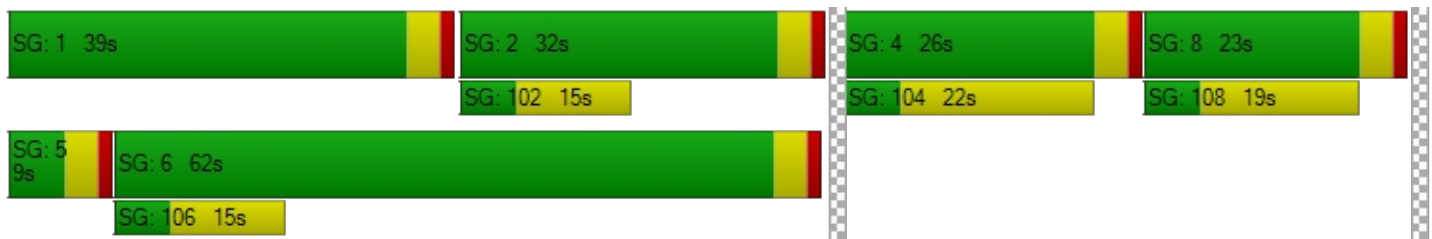
d_M, Delay for Movement [s/veh]	66.26	26.99	6.24	71.28	14.43	0.00	56.05	56.05	65.45	63.14	53.41	53.41
Movement LOS	E	C	A	E	B	A	E	E	E	E	D	D
d_A, Approach Delay [s/veh]	26.93			16.64			62.14			60.51		
Approach LOS	C			B			E			E		
d_I, Intersection Delay [s/veh]	26.95											
Intersection LOS	C											
Intersection V/C	0.767											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.35			51.35			51.35			51.35		
I_p,int, Pedestrian LOS Score for Intersection	2.837			2.722			2.060			2.097		
Crosswalk LOS	C			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	967			467			317			367		
d_b, Bicycle Delay [s]	16.02			35.27			42.51			40.02		
I_b,int, Bicycle LOS Score for Intersection	4.054			2.964			1.768			1.810		
Bicycle LOS	D			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.513

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1004	197	41	760	0	0	0	9	197	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	343	0	4	111	0	0	0	0	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	50	0	0	0	0	0	2	0	0	14
Total Hourly Volume [veh/h]	31	1367	151	46	886	0	0	0	7	201	5	41
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	377	42	13	244	0	0	0	2	55	1	11
Total Analysis Volume [veh/h]	34	1509	167	51	978	0	0	0	8	222	6	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	26	26	9	17	0	0	14	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	48	48	3	49	49	1	1	7	7	7
g / C, Green / Cycle	0.03	0.64	0.64	0.04	0.65	0.65	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.42	0.10	0.03	0.26	0.26	0.00	0.00	0.06	0.06	0.03
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	65	2294	1024	82	1223	1223	23	19	174	174	155
d1, Uniform Delay [s]	35.65	8.65	5.62	35.28	6.43	6.43	0.00	36.91	32.81	32.80	31.62
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.52	1.50	0.34	7.43	0.98	0.98	0.00	13.64	4.14	4.13	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.66	0.16	0.62	0.40	0.40	0.00	0.42	0.66	0.66	0.29
d, Delay for Lane Group [s/veh]	42.17	10.14	5.96	42.71	7.41	7.41	0.00	50.55	36.95	36.93	32.64
Lane Group LOS	D	B	A	D	A	A	A	D	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.71	6.57	0.97	1.06	3.30	3.30	0.00	0.22	2.14	2.15	0.78
50th-Percentile Queue Length [ft/ln]	17.87	164.30	24.36	26.61	82.46	82.46	0.00	5.39	53.60	53.69	19.61
95th-Percentile Queue Length [veh/ln]	1.29	10.78	1.75	1.92	5.94	5.94	0.00	0.39	3.86	3.87	1.41
95th-Percentile Queue Length [ft/ln]	32.16	269.40	43.85	47.90	148.43	148.43	0.00	9.71	96.48	96.64	35.30

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	42.17	10.14	5.96	42.71	7.41	7.41	0.00	0.00	50.55	36.94	36.93	32.64
Movement LOS	D	B	A	D	A	A	A	A	D	D	D	C
d_A, Approach Delay [s/veh]	10.37			9.16			50.55			36.23		
Approach LOS	B			A			D			D		
d_I, Intersection Delay [s/veh]	12.40											
Intersection LOS	B											
Intersection V/C	0.513											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			29.10			0.00			29.10		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.799			0.000			2.279		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	586			346			266			586		
d_b, Bicycle Delay [s]	18.78			25.68			28.23			18.78		
I_b,int, Bicycle LOS Score for Intersection	3.012			2.409			1.576			2.033		
Bicycle LOS	C			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	153	260	0	0	831	137	0	0	0	101	0	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	68	0	0	105	6	0	0	0	0	0	274
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	37	0	0	0	0	0	316
Total Hourly Volume [veh/h]	156	333	0	0	953	109	0	0	0	103	0	946
Peak Hour Factor	0.8970	0.8970	1.0000	1.0000	0.8970	0.8970	1.0000	1.0000	1.0000	0.8970	1.0000	0.8970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	93	0	0	266	30	0	0	0	29	0	264
Total Analysis Volume [veh/h]	174	371	0	0	1062	122	0	0	0	115	0	1055
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.59		0.09
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.29		0.06
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	222	2822	2138		157
d1, Uniform Delay [s]	25.61	1.62	7.13		26.79
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.96	0.10	0.83		6.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.78	0.13	0.50		0.73
d, Delay for Lane Group [s/veh]	31.58	1.72	7.95		33.19
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.63	0.20	3.19		1.80
50th-Percentile Queue Length [ft/ln]	65.86	4.93	79.70		44.98
95th-Percentile Queue Length [veh/ln]	4.74	0.35	5.74		3.24
95th-Percentile Queue Length [ft/ln]	118.55	8.87	143.46		80.96

**Movement, Approach, & Intersection Results**

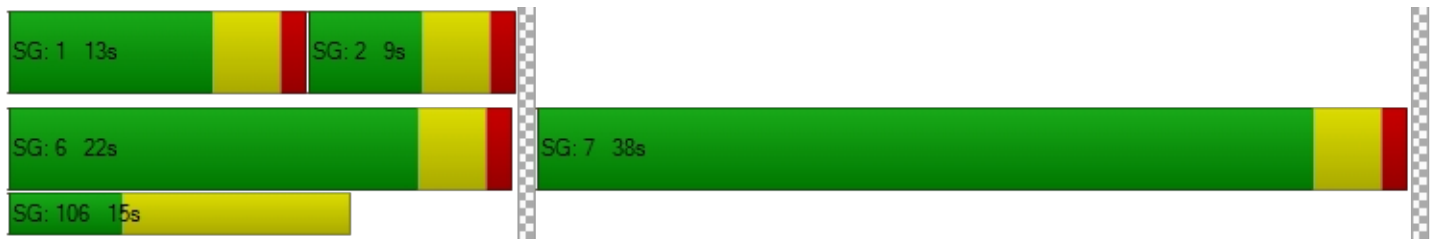
d_M, Delay for Movement [s/veh]	31.58	1.72	0.00	0.00	7.95	0.00	0.00	0.00	0.00	0.00	33.19	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	11.25				7.95				0.00		33.19		
Approach LOS	B				A				A		C		
d_I, Intersection Delay [s/veh]	10.68												
Intersection LOS	B												
Intersection V/C	0.453												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.958	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	2.009		2.436		4.132		1.560	
Bicycle LOS	B		B		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.665

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↔			↔↑↑			↔↔↔					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	127	664	265	0	112	0	337	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	62	0	82	23	0	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	33	0	0	0	0	0	86	0	0	0
Total Hourly Volume [veh/h]	0	369	97	759	293	0	120	0	258	0	0	0
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	26	206	80	0	33	0	70	0	0	0
Total Analysis Volume [veh/h]	0	401	105	825	318	0	130	0	280	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	36	48	0	12	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R
C, Cycle Length [s]	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	29	44	8	8
g / C, Green / Cycle	0.19	0.49	0.74	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.11	0.46	0.09	0.07	0.10
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859
c, Capacity [veh/h]	667	879	2665	236	372
d1, Uniform Delay [s]	22.51	14.61	2.29	24.52	25.23
k, delay calibration	0.50	0.35	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.99	14.30	0.09	2.01	3.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.60	0.94	0.12	0.55	0.75
d, Delay for Lane Group [s/veh]	26.50	28.90	2.38	26.53	28.31
Lane Group LOS	C	C	A	C	C
Critical Lane Group	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.78	12.14	0.30	1.76	1.97
50th-Percentile Queue Length [ft/ln]	69.60	303.61	7.38	44.06	49.17
95th-Percentile Queue Length [veh/ln]	5.01	17.86	0.53	3.17	3.54
95th-Percentile Queue Length [ft/ln]	125.27	446.49	13.28	79.31	88.50

**Movement, Approach, & Intersection Results**

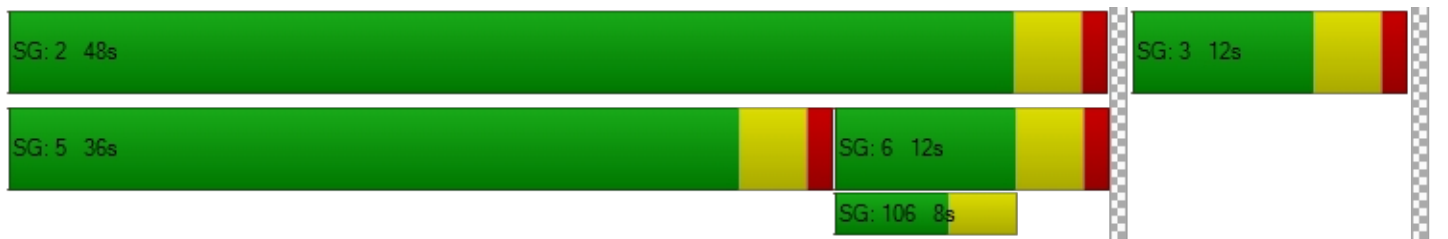
d_M, Delay for Movement [s/veh]	0.00	26.50	0.00	28.90	2.38	0.00	26.53	0.00	28.31	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	26.50			21.52			27.74			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	23.85											
Intersection LOS	C											
Intersection V/C	0.665											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.209		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			1465			266			0		
d_b, Bicycle Delay [s]	22.57			2.15			22.57			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.890			2.503			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	11	0	0	11	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	7	30	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	0	7	41	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	2	11	0	1
Total Analysis Volume [veh/h]	20	0	7	43	0	2
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.27	0.00	8.91	8.41
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.33	0.33	0.14	0.14
d_A, Approach Delay [s/veh]	0.00		1.02		8.41	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.94					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.041

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0200	1.0000	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	7	24	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	17	0	7	35	0	0	0	0	0	0	2
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	2	9	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	18	0	7	37	0	0	0	0	0	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.82	9.11	8.38	8.81	9.22	8.52	7.22	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.15	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.54	1.54	1.54	3.81	3.81	3.81	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.11			9.16			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.86											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	3	4	20	0	0	0	0	11	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	16	3	4	31	0	0	0	0	11	0	1
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	1	1	8	0	0	0	0	3	0	0
Total Analysis Volume [veh/h]	0	17	3	4	33	0	0	0	0	11	0	1
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	7.24	0.00	0.00	8.84	9.33	8.44	8.88	9.37	8.43
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.19	0.19	0.19	0.00	0.00	0.00	0.96	0.96	0.96
d_A, Approach Delay [s/veh]	0.00			0.78			8.87			8.84		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.96											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	254	209	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	31	97	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	290	310	0	0	2
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	76	82	0	0	1
Total Analysis Volume [veh/h]	7	305	326	0	0	2
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.91	0.00	0.00	0.00	0.00	10.02
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.42	0.42	0.00	0.00	0.00	0.21
d_A, Approach Delay [s/veh]	0.18		0.00		10.02	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.12					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	254	0	0	209	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	38	7	7	80	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	297	7	7	293	0	4
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	2	2	77	0	1
Total Analysis Volume [veh/h]	313	7	7	308	0	4
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.89	0.00	0.00	9.97
Movement LOS	A	A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.42	0.42	0.00	0.41
d_A, Approach Delay [s/veh]	0.00		0.18		9.97	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	3.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.193

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	254	0	0	209	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	44	23	0	77	3	1	0	6	6	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	1	0	0	2	0	0	0
Total Hourly Volume [veh/h]	23	303	17	0	290	2	1	0	4	6	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	80	4	0	76	1	0	0	1	2	0	0
Total Analysis Volume [veh/h]	24	319	18	0	305	2	1	0	4	6	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	28	0	9	26	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	47	0	46	1	1
g / C, Green / Cycle	0.03	0.79	0.00	0.76	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.01	0.19	0.00	0.17	0.00	0.00
s, saturation flow rate [veh/h]	1714	1783	1714	1798	1736	1650
c, Capacity [veh/h]	51	1406	3	1368	89	136
d1, Uniform Delay [s]	28.73	1.66	0.00	2.07	29.57	29.59
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.65	0.40	0.00	0.38	0.26	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.47	0.24	0.00	0.22	0.06	0.04
d, Delay for Lane Group [s/veh]	35.38	2.06	0.00	2.45	29.83	29.72
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.40	0.16	0.00	0.54	0.07	0.09
50th-Percentile Queue Length [ft/ln]	10.05	3.93	0.00	13.57	1.87	2.18
95th-Percentile Queue Length [veh/ln]	0.72	0.28	0.00	0.98	0.13	0.16
95th-Percentile Queue Length [ft/ln]	18.08	7.08	0.00	24.43	3.37	3.92

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	35.38	2.06	2.06	0.00	2.45	2.45	29.83	29.83	29.83	29.72	29.72	29.72
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.28			2.45			29.83			29.72		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	3.86											
Intersection LOS	A											
Intersection V/C	0.193											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.271			2.128			1.715			1.710		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			732			632			632		
d_b, Bicycle Delay [s]	10.83			12.07			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.165			2.068			1.571			1.570		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	62	80	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	7	73	258	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	7	136	340	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	2	36	89	2
Total Analysis Volume [veh/h]	2	2	7	143	358	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.00	10.28	8.01	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.44	0.44	0.00	0.00
d_A, Approach Delay [s/veh]	11.14		0.37		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	27	26	26	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	1	7	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	32	28	34	2	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	7	9	1	0
Total Analysis Volume [veh/h]	0	34	29	36	2	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	8.90	8.51
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.16	0.16
d_A, Approach Delay [s/veh]	0.00		0.00		8.90	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	7	0	0	30	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	7	0	1	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	7	0	32	2	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	0	8	1	0
Total Analysis Volume [veh/h]	12	7	0	34	2	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.74	8.37
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.16	0.16
d_A, Approach Delay [s/veh]	0.00		0.00		8.74	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	7	0	0	30	0	0	0	0	0	0	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	0	11	14	0	3	0	0	0	0	4	0	
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	0	18	14	0	34	0	0	0	0	4	0	
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	0	5	4	0	9	0	0	0	0	1	0	
Total Analysis Volume [veh/h]	0	19	15	0	36	0	0	0	0	4	0	
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.26	0.00	0.00	8.84	9.37	8.45	8.86	9.34	8.43
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.32	0.32
d_A, Approach Delay [s/veh]	0.00			0.00			8.89			8.86		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.48											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	79	82	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	82	290	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	0	163	374	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	43	98	2
Total Analysis Volume [veh/h]	2	0	0	172	394	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.99	9.46	8.08	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.99		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	57	46	0	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	15	12	0	0	1
Total Analysis Volume [veh/h]	14	60	48	0	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.31	0.00	0.00	0.00	9.23	8.52
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.67	0.67	0.00	0.00	0.29	0.29
d_A, Approach Delay [s/veh]	1.38		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.08					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	13	4	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	70	50	0	0	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	18	13	0	0	1
Total Analysis Volume [veh/h]	12	74	53	0	0	3
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	9.30	8.54
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.58	0.58	0.00	0.00	0.22	0.22
d_A, Approach Delay [s/veh]	1.02		0.00		8.54	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.80					
Intersection LOS	A					

Bloomington Business Park Specific Plan

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Scenario 9 OY AM + P

Report File: C:\...\PLD OY AM + P.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	666	835	328	574	730	1116	1069	640	427	705	7090

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	149	1290	96	658	1000	170	197	217	61	53	260	394	4545

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1473	23	57	1018	10	64	2645

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	137	1278	36	107	819	85	107	70	42	49	95	105	2930

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	11	3	7	11	0	10	9	268	27	21	247	10	624

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	71	186	33	6	133	5	5	135	113	62	173	19	941

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	242	105	37	256	238	98	976

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	12	8	10	16	12	33	7	151	19	8	208	18	502

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	34	4	1	137	343	31	550

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	5	39	5	21	18	13	1	157	6	3	363	41	672

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	446	1212	1341	1032	529	5	496	5061

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1119	455	495	1377	541	4	654	4645

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	9	1389	4	82	1740	194	94	0	33	0	0	101	3646

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	116	971	15	224	1308	261	229	84	86	11	127	198	3630

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	96	914	18	63	1238	67	70	45	91	10	69	39	2720

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	136	855	33	94	1045	200	102	42	56	31	61	50	2705

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	23	984	1	19	1072	20	83	30	26	21	16	18	2313

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	74	893	9	15	1072	26	45	12	114	46	11	14	2331

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	819	259	309	932	5	8	0	9	196	1	108	2650

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	42	438	433	557	468	27	29	66	27	235	101	661	3084

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	5	214	17	254	446	592	21	5	730	394	2692

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	80	1119	207	31	758	0	4	31	84	103	17	21	2455

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	31	1367	201	46	886	0	0	0	9	201	5	55	2801

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	156	333	953	146	103	1262	2953

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	369	130	759	293	120	344	2015

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	19	0	7	41	0	2	69

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	17	0	7	35	0	0	0	0	0	0	2	61

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	16	3	4	31	0	0	0	0	11	0	1	66

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	7	290	310	0	2	609	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	297	7	7	293	4	608	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	23	303	23	0	290	3	1	0	6	6	0	0	655



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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	2	2	7	136	340	7	494

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	32	28	34	2	0	96

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	11	7	0	32	2	0	52

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	18	14	0	34	0	0	0	0	4	0	0	70

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	2	0	0	163	374	8	547

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	13	57	46	0	0	4	120

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	11	70	50	0	0	3	134

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## Bloomington Business Park Specific Plan

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Scenario 9 OY AM + P

Report File: C:\...\ID OY AM + P.pdf

7/12/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.668	36.3	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.554	32.9	C
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.349	4.4	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.425	18.3	B
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.458	10.6	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	0.547	14.5	B
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.670	44.6	E
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.031	12.9	B
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.137	16.3	C
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	WB Thru	0.722	15.4	C
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	1.138	84.4	F
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.900	53.5	D
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.616	9.7	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.870	62.8	E
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.584	14.7	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	SB Right	3.656	178.3	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.437	8.8	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	NB Left	0.485	11.2	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	SB Left	0.753	30.6	C
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	WB Left	0.931	74.1	E
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.831	34.4	C
22	Market St/24th St	Signalized	HCM 6th Edition	SB Left	0.773	27.5	C
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.516	12.4	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.454	10.7	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.666	23.9	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.005	8.4	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	SB Thru	0.050	9.2	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.016	9.0	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.003	10.1	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.007	10.0	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.202	4.4	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.004	12.3	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.003	8.9	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.002	8.7	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.005	8.9	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.006	12.4	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.005	8.5	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.004	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	36.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	615	801	308	563	657	1094	1048	0	519	375	0	691
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	43	19	14	0	64	0	0	0	124	44	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	82	0	0	279	0	0	163	0	0	176
Total Hourly Volume [veh/h]	670	836	246	574	734	837	1069	0	490	427	0	529
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	1.0000	0.9530	0.9530	1.0000	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	176	219	65	151	193	220	280	0	129	112	0	139
Total Analysis Volume [veh/h]	703	877	258	602	770	878	1122	0	514	448	0	555
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	38	21	36	38	38
g / C, Green / Cycle	0.22	0.35	0.19	0.32	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.20	0.17	0.17	0.15	0.32	0.13
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	771	1811	682	1681	1219	1219
d1, Uniform Delay [s]	41.86	27.96	43.06	29.43	34.43	26.86
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.70	0.93	3.99	0.90	3.38	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.91	0.48	0.88	0.46	0.92	0.37
d, Delay for Lane Group [s/veh]	46.56	28.88	47.05	30.33	37.81	27.05
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	9.51	5.97	8.19	5.42	13.31	4.00
50th-Percentile Queue Length [ft/ln]	237.79	149.31	204.70	135.61	332.76	99.99
95th-Percentile Queue Length [veh/ln]	14.57	9.98	12.88	9.24	19.29	7.20
95th-Percentile Queue Length [ft/ln]	364.24	249.51	322.02	231.11	482.34	179.98

**Movement, Approach, & Intersection Results**

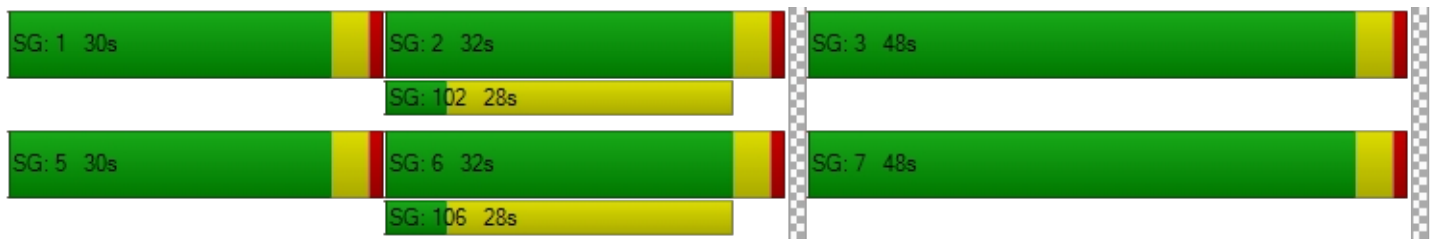
d_M, Delay for Movement [s/veh]	46.56	28.88	0.00	47.05	30.33	0.00	37.81	0.00	0.00	27.05	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	36.75			37.67			37.81			27.05		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	36.33											
Intersection LOS	D											
Intersection V/C	0.668											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			46.34			46.34		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.107			2.834		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	509			509			800			800		
d_b, Bicycle Delay [s]	30.53			30.53			19.77			19.77		
I_b,int, Bicycle LOS Score for Intersection	2.429			2.314			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	146	1235	88	550	875	156	190	194	58	49	243	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	6	97	125	11	3	19	2	3	12	37
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	24	0	0	43	0	0	15	0	0	99
Total Hourly Volume [veh/h]	149	1296	72	658	1018	127	197	217	46	53	260	295
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	347	19	176	272	34	53	58	12	14	70	79
Total Analysis Volume [veh/h]	159	1386	77	704	1089	136	211	232	49	57	278	316
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	19	40	0	35	56	0	15	45	0	10	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	62	62	29	83	83	10	18	18	4	13	46
g / C, Green / Cycle	0.06	0.48	0.48	0.22	0.64	0.64	0.08	0.14	0.14	0.03	0.10	0.35
(v / s)_i Volume / Saturation Flow Rate	0.05	0.21	0.21	0.20	0.23	0.23	0.06	0.06	0.03	0.02	0.08	0.11
s, saturation flow rate [veh/h]	3514	5176	1835	3514	3618	1794	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	217	2485	881	775	2311	1146	265	513	229	121	365	1007
d1, Uniform Delay [s]	59.94	22.21	22.21	49.38	10.95	10.97	59.12	51.15	49.37	61.62	56.94	30.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.71	0.56	1.56	4.47	0.43	0.86	5.40	0.62	0.46	2.85	3.32	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.73	0.43	0.43	0.91	0.35	0.36	0.80	0.45	0.21	0.47	0.76	0.31
d, Delay for Lane Group [s/veh]	64.65	22.76	23.78	53.85	11.38	11.83	64.52	51.77	49.83	64.48	60.26	30.85
Lane Group LOS	E	C	C	D	B	B	E	D	D	E	E	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.65	6.94	7.63	11.40	5.25	5.38	3.55	3.44	1.42	0.95	4.49	3.51
50th-Percentile Queue Length [ft/ln]	66.21	173.40	190.81	285.07	131.16	134.56	88.68	86.09	35.38	23.72	112.19	87.71
95th-Percentile Queue Length [veh/ln]	4.77	11.26	12.16	16.94	9.00	9.19	6.38	6.20	2.55	1.71	7.96	6.31
95th-Percentile Queue Length [ft/ln]	119.18	281.38	304.08	423.52	225.08	229.68	159.62	154.96	63.68	42.69	199.05	157.87

**Movement, Approach, & Intersection Results**

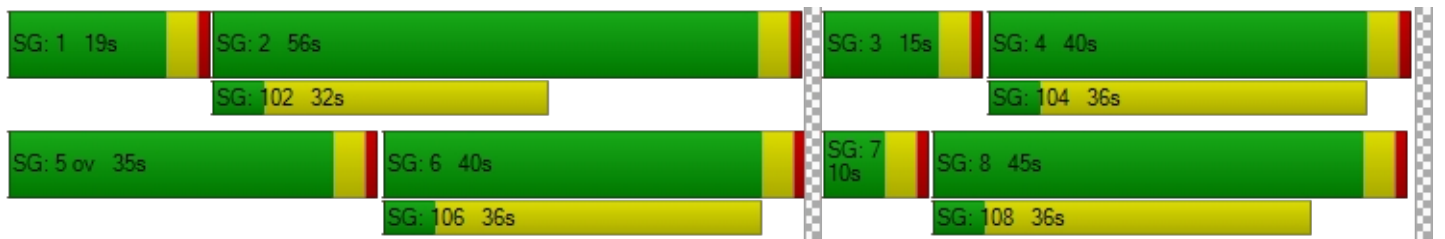
d_M, Delay for Movement [s/veh]	64.65	22.99	23.78	53.85	11.49	11.83	64.52	51.77	49.83	64.48	60.26	30.85
Movement LOS	E	C	C	D	B	B	E	D	D	E	E	C
d_A, Approach Delay [s/veh]	27.11			26.98			57.04			46.36		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	32.86											
Intersection LOS	C											
Intersection V/C	0.554											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.418	3.505	2.971	3.332
Crosswalk LOS	C	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	800	631	554
d_b, Bicycle Delay [s]	33.99	23.40	30.47	33.99
I_b,int, Bicycle LOS Score for Intersection	2.239	2.644	1.978	2.178
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.349

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1408	23	56	888	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	0	0	129	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1478	17	57	1035	10	48
Peak Hour Factor	0.9490	0.9490	0.9490	0.9490	0.9490	0.9490
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	389	4	15	273	3	13
Total Analysis Volume [veh/h]	1557	18	60	1091	11	51
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	32	38	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	51	51	4	58	4	4
g / C, Green / Cycle	0.73	0.73	0.05	0.83	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.30	0.01	0.02	0.21	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3759	1173	179	4317	94	84
d1, Uniform Delay [s]	3.76	2.66	32.13	1.22	31.72	32.56
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.02	1.09	0.14	0.55	7.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.41	0.02	0.34	0.25	0.12	0.61
d, Delay for Lane Group [s/veh]	4.10	2.68	33.23	1.36	32.27	39.57
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.24	0.04	0.50	0.21	0.19	0.98
50th-Percentile Queue Length [ft/ln]	30.88	0.88	12.59	5.20	4.67	24.59
95th-Percentile Queue Length [veh/ln]	2.22	0.06	0.91	0.37	0.34	1.77
95th-Percentile Queue Length [ft/ln]	55.59	1.58	22.65	9.35	8.41	44.26

**Movement, Approach, & Intersection Results**

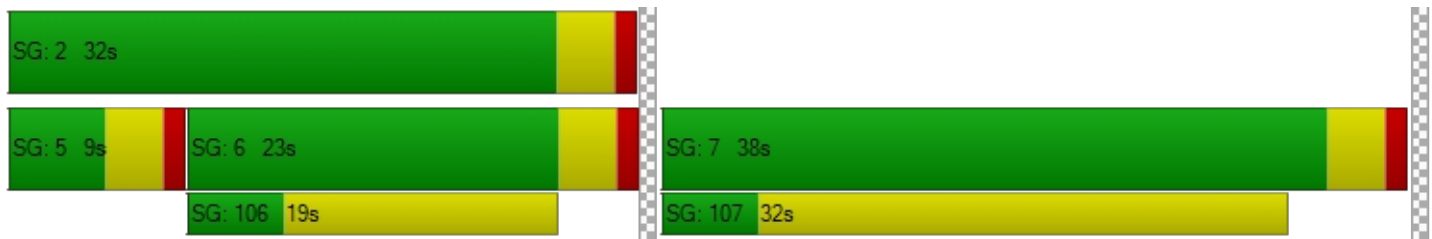
d_M, Delay for Movement [s/veh]	4.10	2.68	33.23	1.36	32.27	39.57
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	4.08		3.02		38.28	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.40					
Intersection LOS	A					
Intersection V/C	0.349					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.053	2.182
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	542	799	971
d_b, Bicycle Delay [s]	18.61	12.63	9.28
I_b,int, Bicycle LOS Score for Intersection	2.429	2.193	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	18.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.425

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1235	35	56	761	65	99	59	41	48	75	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	68	43	19	6	10	0	0	18	18
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	21	0	0	0	0	0	28
Total Hourly Volume [veh/h]	137	1278	36	125	819	64	107	70	42	49	95	82
Peak Hour Factor	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	342	10	33	219	17	29	19	11	13	25	22
Total Analysis Volume [veh/h]	147	1370	39	134	878	69	115	75	45	53	102	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	55	55	5	55	55	7	11	11	4	7	7
g / C, Green / Cycle	0.06	0.61	0.61	0.06	0.61	0.61	0.08	0.12	0.12	0.04	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.04	0.27	0.02	0.04	0.18	0.18	0.06	0.02	0.03	0.03	0.03	0.05
s, saturation flow rate [veh/h]	3459	5094	1589	3514	3560	1801	1810	3618	1589	1781	3618	1615
c, Capacity [veh/h]	196	3078	961	199	2152	1088	147	433	190	75	290	130
d1, Uniform Delay [s]	41.92	9.66	7.24	41.73	8.57	8.58	40.62	35.69	35.97	42.64	39.25	40.34
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.73	0.47	0.08	3.95	0.34	0.68	8.60	0.19	0.63	11.50	0.72	6.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.45	0.04	0.67	0.29	0.29	0.78	0.17	0.24	0.71	0.35	0.68
d, Delay for Lane Group [s/veh]	47.65	10.12	7.32	45.68	8.92	9.26	49.22	35.88	36.60	54.14	39.97	46.43
Lane Group LOS	D	B	A	D	A	A	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.75	4.49	0.30	1.55	2.77	2.91	2.82	0.75	0.92	1.39	1.09	2.09
50th-Percentile Queue Length [ft/ln]	43.69	112.35	7.51	38.84	69.15	72.72	70.57	18.63	23.02	34.81	27.16	52.36
95th-Percentile Queue Length [veh/ln]	3.15	7.97	0.54	2.80	4.98	5.24	5.08	1.34	1.66	2.51	1.96	3.77
95th-Percentile Queue Length [ft/ln]	78.64	199.26	13.51	69.91	124.47	130.90	127.02	33.53	41.44	62.65	48.89	94.25

**Movement, Approach, & Intersection Results**

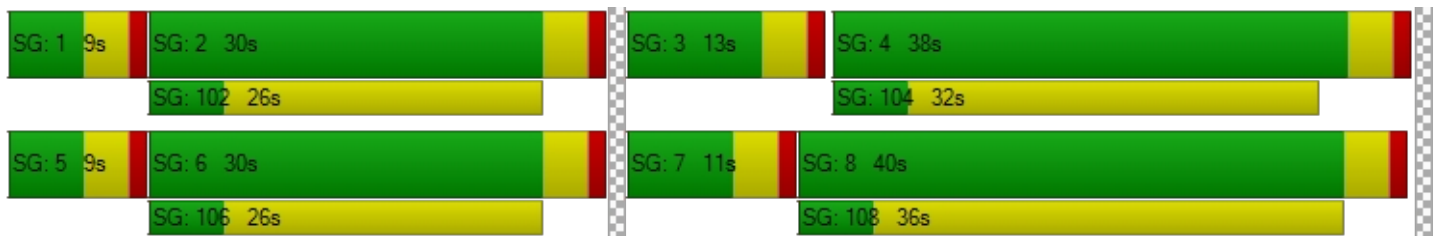
d_M, Delay for Movement [s/veh]	47.65	10.12	7.32	45.68	9.01	9.26	49.22	35.88	36.60	54.14	39.97	46.43
Movement LOS	D	B	A	D	A	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	13.60			13.58			42.54			45.40		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.26											
Intersection LOS	B											
Intersection V/C	0.425											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.125	3.086	2.548	2.579
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	799	755
d_b, Bicycle Delay [s]	22.80	22.80	16.24	17.46
I_b,int, Bicycle LOS Score for Intersection	2.415	2.166	1.753	1.783
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.458

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	3	3	11	0	10	9	177	3	8	203	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	5	0	0	0	0	98	32	18	44	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	3	8	11	0	10	9	279	35	26	251	10
Peak Hour Factor	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540	0.8540
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	2	3	0	3	3	82	10	8	73	3
Total Analysis Volume [veh/h]	16	4	9	13	0	12	11	327	41	30	294	12
Pedestrian Volume [ped/h]	0			0			0			0		

Version 2021 (SP 0-2)

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	662	676	828	810
Degree of Utilization, x	0.04	0.04	0.46	0.41

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.14	0.12	2.43	2.05
95th-Percentile Queue Length [ft]	3.43	2.88	60.73	51.35
Approach Delay [s/veh]	8.68	8.54	10.97	10.55
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	10.62			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	14.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.547

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	18	2	0	60	0	0	58	44	0	49	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	186	33	6	135	5	5	141	119	62	180	19
Peak Hour Factor	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940	0.8940
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	52	9	2	38	1	1	39	33	17	50	5
Total Analysis Volume [veh/h]	82	208	37	7	151	6	6	158	133	69	201	21
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	598	561	620	594
Degree of Utilization, x	0.55	0.29	0.48	0.49

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	3.30	1.21	2.59	2.69
95th-Percentile Queue Length [ft]	82.57	30.19	64.71	67.28
Approach Delay [s/veh]	16.06	12.03	14.01	14.75
Approach LOS	C	B	B	B
Intersection Delay [s/veh]	14.53			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	44.6
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↶		↷		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name						
Base Volume Input [veh/h]	208	39	22	177	37	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	2.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	68	18	75	200	79
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	108	40	256	238	117
Peak Hour Factor	0.9110	0.9110	0.9110	0.9110	0.9110	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	30	11	70	65	32
Total Analysis Volume [veh/h]	268	119	44	281	261	128
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.04	0.00	0.67	0.18
d_M, Delay for Movement [s/veh]	0.00	0.00	8.16	0.00	44.63	40.40
Movement LOS	A	A	A	A	E	E
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.12	0.12	8.49	8.49
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.90	2.90	212.26	212.26
d_A, Approach Delay [s/veh]	0.00		1.11		43.24	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	15.60					
Intersection LOS	E					



**Intersection Level Of Service Report**  
**Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	8	10	6	12	26	5	110	6	8	172	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	10	0	6	2	41	18	0	38	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	8	10	16	12	33	7	153	24	8	213	18
Peak Hour Factor	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	2	3	4	3	9	2	40	6	2	56	5
Total Analysis Volume [veh/h]	15	8	10	17	13	34	7	160	25	8	222	19
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.02	0.01	0.03	0.03	0.04	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.88	12.52	9.50	12.68	12.79	10.07	7.71	0.00	0.00	7.58	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.19	0.19	0.19	0.34	0.34	0.34	0.02	0.02	0.02	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	4.64	4.64	4.64	8.38	8.38	8.38	0.39	0.39	0.39	0.43	0.43	0.43
d_A, Approach Delay [s/veh]	11.77			11.31			0.28			0.24		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.28											
Intersection LOS	B											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.137

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	26	4	1	61	76	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	79	286	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	4	1	141	364	39
Peak Hour Factor	0.6840	0.6840	0.6840	0.6840	0.6840	0.6840
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	1	0	52	133	14
Total Analysis Volume [veh/h]	51	6	1	206	532	57
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	16.30	13.40	8.62	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.52	0.52	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.90	12.90	0.08	0.08	0.00	0.00
d_A, Approach Delay [s/veh]	16.00		0.04		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.08					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.722

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	8	0	0	0	90	0	0	329	33
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	39	5	22	18	13	1	163	6	3	395	50
Peak Hour Factor	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830	0.7830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	12	2	7	6	4	0	52	2	1	126	16
Total Analysis Volume [veh/h]	6	50	6	28	23	17	1	208	8	4	504	64
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	617	621	662	761	704	816
Degree of Utilization, x	0.10	0.11	0.32	0.01	0.72	0.08

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.33	0.37	1.35	0.03	6.21	0.25
95th-Percentile Queue Length [ft]	8.35	9.17	33.81	0.80	155.32	6.36
Approach Delay [s/veh]	9.49	9.51	10.51		18.54	
Approach LOS	A	A	B		C	
Intersection Delay [s/veh]	15.37					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	84.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.138

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	69	33	0	0	67	0	0	0	58	196	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	258	0	0	15	0	0	124
Total Hourly Volume [veh/h]	448	1214	0	0	1317	774	0	0	58	542	5	372
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	116	314	0	0	340	200	0	0	15	140	1	96
Total Analysis Volume [veh/h]	463	1255	0	0	1362	800	0	0	58	560	5	385
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		0		0		0		0		0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	30	85	0	0	55	0	0	0	0	0	40	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	125	125	125	125		125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	26	81	51	51		36	36
g / C, Green / Cycle	0.21	0.65	0.41	0.41		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.29	0.39	0.28	0.52		0.33	0.25
s, saturation flow rate [veh/h]	1619	3237	4903	1530		1715	1530
c, Capacity [veh/h]	337	2097	1999	624		494	441
d1, Uniform Delay [s]	49.45	12.64	30.34	36.99		44.47	42.31
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.36
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	185.64	1.27	1.90	139.13		86.48	16.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.37	0.60	0.68	1.28		1.14	0.87
d, Delay for Lane Group [s/veh]	235.08	13.91	32.24	176.13		130.95	58.38
Lane Group LOS	F	B	C	F		F	E
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	27.87	9.94	11.46	42.71		27.01	13.20
50th-Percentile Queue Length [ft/ln]	696.66	248.40	286.48	1067.83		675.17	329.93
95th-Percentile Queue Length [veh/ln]	42.42	15.11	17.01	62.70		38.56	19.15
95th-Percentile Queue Length [ft/ln]	1060.52	377.64	425.27	1567.47		963.93	478.87

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	235.08	13.91	0.00	0.00	32.24	176.13	0.00	0.00	0.00	130.95	130.95	58.38
Movement LOS	F	B			C	F				F	F	E
d_A, Approach Delay [s/veh]	73.52				85.48		0.00				101.54	
Approach LOS	E				F		A				F	
d_I, Intersection Delay [s/veh]	84.38											
Intersection LOS	F											
Intersection V/C	1.138											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		53.80		53.80	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.476		2.483	
Crosswalk LOS	F		F		B		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1296		816		0		576	
d_b, Bicycle Delay [s]	7.73		21.89		62.48		31.66	
I_b,int, Bicycle LOS Score for Intersection	2.977		2.891		4.132		3.332	
Bicycle LOS	C		C		D		C	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	53.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.900

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1001	385	485	1080	0	530	4	441	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	102	64	0	320	0	0	0	157	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	114	0	0	0	0	0	152	0	0	0
Total Hourly Volume [veh/h]	0	1123	343	495	1422	0	541	4	455	0	0	0
Peak Hour Factor	1.0000	0.9630	0.9630	0.9630	0.9630	1.0000	0.9630	0.9630	0.9630	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	292	89	129	369	0	140	1	118	0	0	0
Total Analysis Volume [veh/h]	0	1166	356	514	1477	0	562	4	472	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	36	64	0	0	36	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	100	100	100	100	100	100	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	24	24	32	60	32	32	
g / C, Green / Cycle	0.24	0.24	0.32	0.60	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.23	0.32	0.43	0.31	0.34	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1550	
c, Capacity [veh/h]	1178	368	518	2057	518	496	
d1, Uniform Delay [s]	37.87	37.62	33.89	14.05	33.59	34.01	
k, delay calibration	0.50	0.50	0.45	0.50	0.43	0.50	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	23.93	39.68	35.63	2.19	30.87	62.63	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.99	0.97	0.99	0.72	0.97	1.08	
d, Delay for Lane Group [s/veh]	61.80	77.30	69.52	16.24	64.46	96.64	
Lane Group LOS	E	E	E	B	E	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	11.90	12.51	17.18	11.30	16.16	20.29	
50th-Percentile Queue Length [ft/ln]	297.58	312.66	429.51	282.54	404.02	507.34	
95th-Percentile Queue Length [veh/ln]	17.56	18.31	23.98	16.82	22.75	29.02	
95th-Percentile Queue Length [ft/ln]	439.03	457.66	599.45	420.38	568.84	725.53	

**Movement, Approach, & Intersection Results**

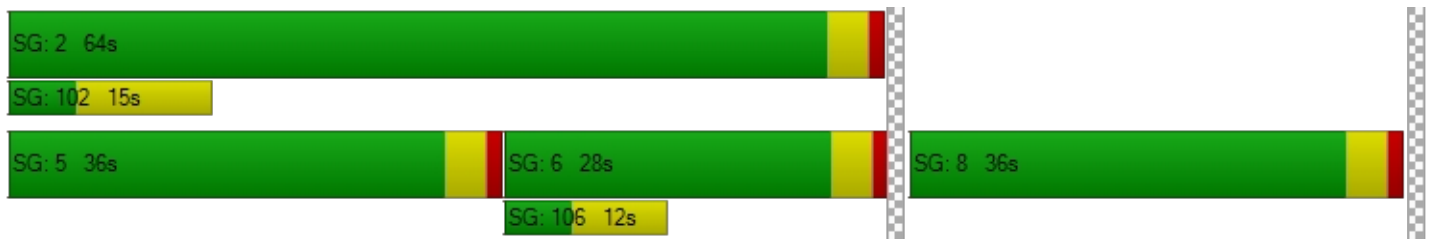
d_M, Delay for Movement [s/veh]	0.00	61.80	77.30	69.52	16.24	0.00	67.05	96.64	96.64	0.00	0.00	0.00
Movement LOS		E	E	E	B		E	F	F			
d_A, Approach Delay [s/veh]		65.43		30.00			81.01			0.00		
Approach LOS		E		C			F			A		
d_I, Intersection Delay [s/veh]	53.48											
Intersection LOS	D											
Intersection V/C	0.900											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	41.41	41.41
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.550	2.203
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	480	1200	640	0
d_b, Bicycle Delay [s]	28.88	8.00	23.12	50.00
I_b,int, Bicycle LOS Score for Intersection	2.459	3.202	3.523	4.132
Bicycle LOS	B	C	D	D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.616

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1205	4	80	1236	190	92	0	32	0	0	99
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	166	0	0	477	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	25
Total Hourly Volume [veh/h]	9	1395	3	82	1738	194	94	0	33	0	0	76
Peak Hour Factor	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420	0.9420
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	370	1	22	461	51	25	0	9	0	0	20
Total Analysis Volume [veh/h]	10	1481	3	87	1845	206	100	0	35	0	0	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	13	19	0	0	51	0	0	51	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	64	56	56	64	59	59	8	8	8
g / C, Green / Cycle	0.80	0.69	0.69	0.80	0.74	0.74	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.03	0.41	0.41	0.18	0.54	0.14	0.08	0.02	0.05
s, saturation flow rate [veh/h]	316	1800	1799	487	3427	1506	1317	1506	1506
c, Capacity [veh/h]	299	1248	1247	436	2516	1106	129	154	198
d1, Uniform Delay [s]	6.19	6.40	6.41	4.50	6.12	3.28	35.09	33.06	34.13
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	2.09	2.09	1.03	1.93	0.37	9.60	0.75	1.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.03	0.59	0.59	0.20	0.73	0.19	0.78	0.23	0.41
d, Delay for Lane Group [s/veh]	6.24	8.50	8.50	5.52	8.06	3.65	44.69	33.81	35.47
Lane Group LOS	A	A	A	A	A	A	D	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.02	5.67	5.67	0.27	6.68	0.83	2.20	0.64	1.54
50th-Percentile Queue Length [ft/ln]	0.50	141.70	141.67	6.78	166.96	20.78	55.01	16.10	38.43
95th-Percentile Queue Length [veh/ln]	0.04	9.57	9.57	0.49	10.92	1.50	3.96	1.16	2.77
95th-Percentile Queue Length [ft/ln]	0.89	239.31	239.26	12.21	272.91	37.40	99.01	28.99	69.17

**Movement, Approach, & Intersection Results**

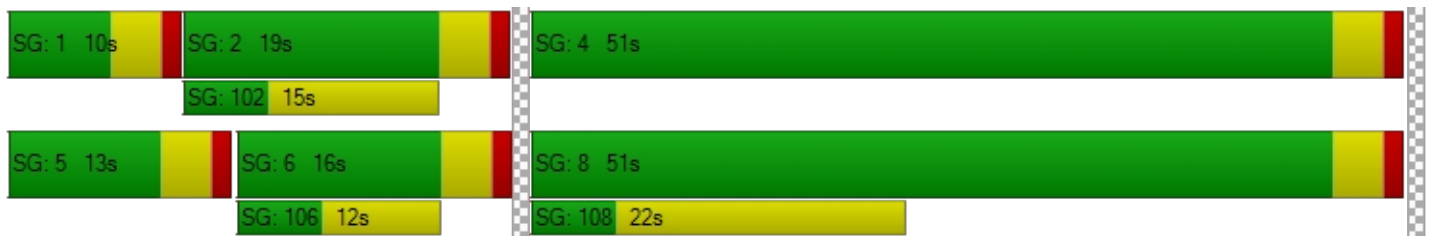
d_M, Delay for Movement [s/veh]	6.24	8.50	8.50	5.52	8.06	3.65	44.69	33.81	33.81	35.47	35.47	35.47
Movement LOS	A	A	A	A	A	A	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	8.48			7.53			41.87			35.47		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	9.69											
Intersection LOS	A											
Intersection V/C	0.616											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.53	0.00	31.53	31.53
I_p,int, Pedestrian LOS Score for Intersection	2.955	0.000	2.061	1.931
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	300	375	1174	1174
d_b, Bicycle Delay [s]	28.92	26.43	6.82	6.82
I_b,int, Bicycle LOS Score for Intersection	2.793	3.323	1.782	1.735
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	62.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.870

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	107	3	20	326	132	57	7	31	1	8	6
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	977	15	224	1307	261	229	84	86	11	127	198
Peak Hour Factor	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370	0.9370
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	261	4	60	349	70	61	22	23	3	34	53
Total Analysis Volume [veh/h]	124	1043	16	239	1395	279	244	90	92	12	136	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	42	0	24	53	0	24	42	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	45	45	20	56	56	20	37	37	2	19	19
g / C, Green / Cycle	0.08	0.38	0.38	0.16	0.47	0.47	0.17	0.31	0.31	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.30	0.30	0.15	0.47	0.50	0.15	0.03	0.06	0.01	0.08	0.14
s, saturation flow rate [veh/h]	1593	1772	1762	1593	1772	1673	1593	3373	1506	1593	1772	1506
c, Capacity [veh/h]	121	667	663	262	825	779	266	1049	468	23	281	239
d1, Uniform Delay [s]	55.49	33.33	33.33	49.29	32.09	32.09	49.20	29.28	30.36	58.72	46.02	49.41
k, delay calibration	0.11	0.50	0.50	0.16	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	45.65	9.54	9.60	15.84	35.69	53.60	17.13	0.03	0.20	16.26	1.29	11.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.03	0.80	0.80	0.91	1.02	1.07	0.92	0.09	0.20	0.51	0.48	0.88
d, Delay for Lane Group [s/veh]	101.14	42.87	42.93	65.12	67.78	85.69	66.33	29.32	30.56	74.98	47.30	61.26
Lane Group LOS	F	D	D	E	F	F	E	C	C	E	D	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.17	15.33	15.26	8.18	31.19	33.33	8.44	0.93	1.99	0.47	3.81	6.96
50th-Percentile Queue Length [ft/ln]	129.32	383.23	381.57	204.41	779.74	833.18	210.98	23.34	49.85	11.71	95.21	174.09
95th-Percentile Queue Length [veh/ln]	8.99	21.75	21.67	12.87	40.90	45.17	13.20	1.68	3.59	0.84	6.85	11.29
95th-Percentile Queue Length [ft/ln]	224.64	543.76	541.75	321.65	1022.48	1129.18	330.08	42.01	89.74	21.07	171.37	282.28

**Movement, Approach, & Intersection Results**

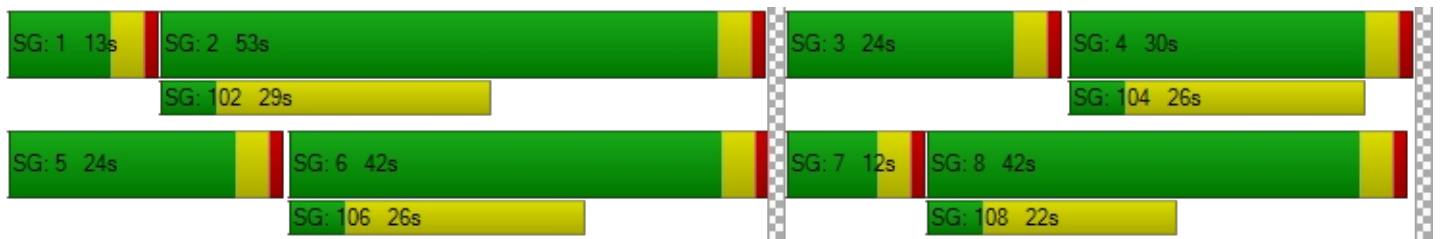
d_M, Delay for Movement [s/veh]	101.14	42.90	42.93	65.12	74.92	85.69	66.33	29.32	30.56	74.98	47.30	61.26
Movement LOS	F	D	D	E	E	F	E	C	C	E	D	E
d_A, Approach Delay [s/veh]	49.00			75.27			50.79			56.43		
Approach LOS	D			E			D			E		
d_I, Intersection Delay [s/veh]	62.83											
Intersection LOS	E											
Intersection V/C	0.870											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.35	51.35	51.35	51.35
I_p,int, Pedestrian LOS Score for Intersection	2.838	3.022	2.744	2.583
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	633	816	633	433
d_b, Bicycle Delay [s]	28.03	21.02	28.03	36.83
I_b,int, Bicycle LOS Score for Intersection	2.536	3.138	1.911	1.856
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	18	62	871	53	63	43	47	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	122	0	0	344	18	7	1	43	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	918	18	63	1232	72	71	45	91	10	69	39
Peak Hour Factor	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590	0.9590
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	239	5	16	321	19	19	12	24	3	18	10
Total Analysis Volume [veh/h]	100	957	19	66	1285	75	74	47	95	10	72	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	16	0	18	22	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	35	35	3	34	34	10	10
g / C, Green / Cycle	0.08	0.58	0.58	0.06	0.56	0.56	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.28	0.28	0.04	0.39	0.39	0.13	0.07
s, saturation flow rate [veh/h]	1593	1772	1759	1593	1772	1737	1621	1734
c, Capacity [veh/h]	126	1031	1024	90	992	973	342	345
d1, Uniform Delay [s]	27.20	7.25	7.25	27.89	9.48	9.51	24.21	22.77
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.85	1.57	1.58	10.72	3.94	4.07	1.92	0.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.47	0.47	0.73	0.69	0.69	0.63	0.36
d, Delay for Lane Group [s/veh]	38.06	8.82	8.83	38.60	13.42	13.57	26.13	23.39
Lane Group LOS	D	A	A	D	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.71	3.21	3.19	1.15	6.05	6.00	2.93	1.47
50th-Percentile Queue Length [ft/ln]	42.78	80.13	79.67	28.86	151.17	149.96	73.22	36.81
95th-Percentile Queue Length [veh/ln]	3.08	5.77	5.74	2.08	10.08	10.01	5.27	2.65
95th-Percentile Queue Length [ft/ln]	77.00	144.23	143.40	51.94	251.99	250.37	131.79	66.26

**Movement, Approach, & Intersection Results**

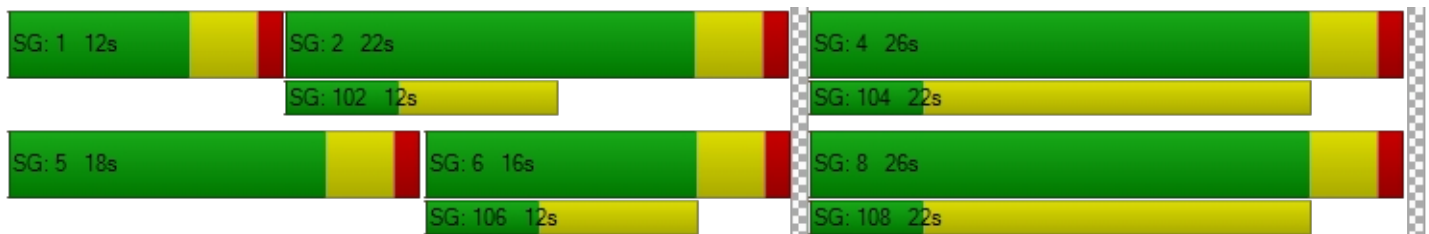
d_M, Delay for Movement [s/veh]	38.06	8.82	8.83	38.60	13.49	13.57	26.13	26.13	26.13	23.39	23.39	23.39
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.54			14.66			26.13			23.39		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.73											
Intersection LOS	B											
Intersection V/C	0.584											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.776			2.873			1.921			1.861		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	400			600			733			733		
d_b, Bicycle Delay [s]	19.22			14.72			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.447			2.736			1.916			1.763		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	178.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.656

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	137	95	0	0	189	200	54	7	37	0	26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	0	0	0	15	0	0	0
Total Hourly Volume [veh/h]	152	855	25	94	1016	223	107	42	44	31	64	50
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190	0.9190
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	233	7	26	276	61	29	11	12	8	17	14
Total Analysis Volume [veh/h]	165	930	27	102	1106	243	116	46	48	34	70	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	15	15	5	15	15	28	28	28	28
g / C, Green / Cycle	0.08	0.26	0.26	0.08	0.25	0.25	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.10	0.27	0.27	0.06	0.39	0.40	3.16	0.03	0.39	0.04
s, saturation flow rate [veh/h]	1619	1772	1754	1593	1772	1663	51	1530	265	1506
c, Capacity [veh/h]	135	454	450	125	446	419	127	711	203	700
d1, Uniform Delay [s]	27.50	22.31	22.31	27.20	22.44	22.44	24.84	8.87	13.84	8.91
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.29	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	114.20	58.47	58.75	11.81	257.51	268.36	172.29	0.04	5.36	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.22	1.06	1.06	0.81	1.55	1.57	1.28	0.07	0.51	0.08
d, Delay for Lane Group [s/veh]	141.70	80.78	81.06	39.02	279.96	290.80	197.13	8.91	19.20	8.96
Lane Group LOS	F	F	F	D	F	F	F	A	B	A
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	6.10	13.20	13.10	1.77	37.65	36.61	7.82	0.31	0.99	0.35
50th-Percentile Queue Length [ft/ln]	152.61	329.99	327.60	44.27	941.14	915.14	195.40	7.65	24.76	8.66
95th-Percentile Queue Length [veh/ln]	10.81	19.78	19.66	3.19	58.44	57.20	14.07	0.55	1.78	0.62
95th-Percentile Queue Length [ft/ln]	270.24	494.57	491.60	79.68	1460.97	1429.99	351.73	13.78	44.57	15.58

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	141.70	80.91	81.06	39.02	284.03	290.80	197.13	197.13	8.91	19.20	19.20	8.96
Movement LOS	F	F	F	D	F	F	F	F	A	B	B	A
d_A, Approach Delay [s/veh]	89.86			267.94			154.11			15.70		
Approach LOS	F			F			F			B		
d_I, Intersection Delay [s/veh]	178.32											
Intersection LOS	F											
Intersection V/C	3.656											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.795	2.943	2.171	2.032
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	933	933
d_b, Bicycle Delay [s]	16.88	16.88	8.53	8.53
I_b,int, Bicycle LOS Score for Intersection	2.492	2.757	1.931	1.820
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.437

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	23	755	1	19	805	19	79	29	25	21	16	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	230	0	0	226	1	2	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	5	0	0	7	0	0	5
Total Hourly Volume [veh/h]	23	1000	1	19	1047	15	83	30	19	21	16	13
Peak Hour Factor	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960	0.8960
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	279	0	5	292	4	23	8	5	6	4	4
Total Analysis Volume [veh/h]	26	1116	1	21	1169	17	93	33	21	23	18	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	40	40	2	39	39	7	7
g / C, Green / Cycle	0.03	0.66	0.66	0.03	0.66	0.66	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.31	0.31	0.01	0.33	0.33	0.09	0.03
s, saturation flow rate [veh/h]	1619	1800	1799	1619	1800	1791	1621	1712
c, Capacity [veh/h]	49	1188	1188	42	1180	1174	283	281
d1, Uniform Delay [s]	28.70	5.04	5.04	28.89	5.33	5.33	25.75	24.35
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.48	1.34	1.34	9.12	1.54	1.55	1.47	0.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.47	0.47	0.50	0.50	0.50	0.52	0.20
d, Delay for Lane Group [s/veh]	37.18	6.37	6.37	38.01	6.87	6.88	27.22	24.69
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.47	2.68	2.68	0.39	3.02	3.01	2.03	0.72
50th-Percentile Queue Length [ft/ln]	11.68	66.93	66.91	9.75	75.60	75.32	50.74	17.90
95th-Percentile Queue Length [veh/ln]	0.84	4.82	4.82	0.70	5.44	5.42	3.65	1.29
95th-Percentile Queue Length [ft/ln]	21.03	120.47	120.44	17.55	136.08	135.57	91.33	32.22



**Movement, Approach, & Intersection Results**

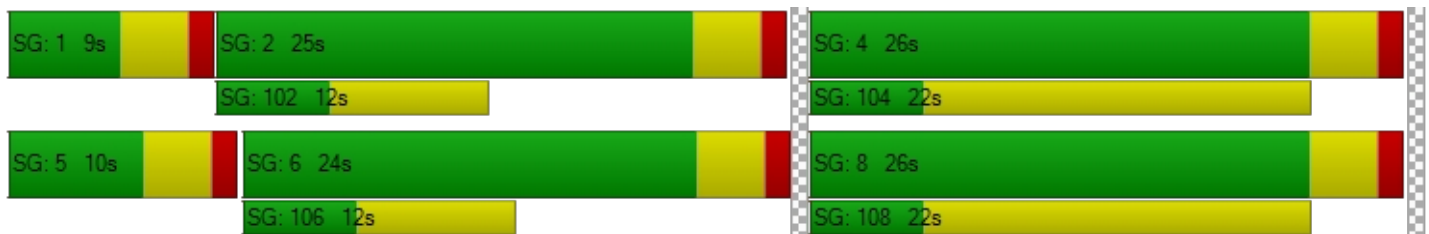
d_M, Delay for Movement [s/veh]	37.18	6.37	6.37	38.01	6.87	6.88	27.22	27.22	27.22	24.69	24.69	24.69
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	7.07			7.42			27.22			24.69		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.78											
Intersection LOS	A											
Intersection V/C	0.437											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.774			2.896			1.813			1.759		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.503			2.560			1.814			1.660		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	38	677	7	14	808	23	34	12	75	43	11	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	215	2	1	222	3	13	0	37	2	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	0	0	0	0	0	0	4
Total Hourly Volume [veh/h]	74	906	7	15	1046	26	48	12	114	46	11	10
Peak Hour Factor	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	241	2	4	278	7	13	3	30	12	3	3
Total Analysis Volume [veh/h]	79	965	7	16	1114	28	51	13	121	49	12	11
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	25	0	9	16	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	38	38	1	36	36	9	9
g / C, Green / Cycle	0.06	0.64	0.64	0.02	0.59	0.59	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.27	0.01	0.32	0.32	0.12	0.06
s, saturation flow rate [veh/h]	1593	1800	1795	1619	1800	1784	1587	1224
c, Capacity [veh/h]	99	1142	1139	33	1067	1058	307	278
d1, Uniform Delay [s]	27.79	5.50	5.50	29.10	7.31	7.31	24.74	23.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.27	1.16	1.17	10.30	1.94	1.96	1.90	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.79	0.43	0.43	0.48	0.54	0.54	0.60	0.26
d, Delay for Lane Group [s/veh]	41.06	6.66	6.67	39.40	9.25	9.27	26.64	23.57
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.43	2.49	2.49	0.31	3.84	3.81	2.54	0.90
50th-Percentile Queue Length [ft/ln]	35.68	62.31	62.17	7.82	95.98	95.33	63.38	22.57
95th-Percentile Queue Length [veh/ln]	2.57	4.49	4.48	0.56	6.91	6.86	4.56	1.62
95th-Percentile Queue Length [ft/ln]	64.22	112.15	111.91	14.08	172.77	171.59	114.08	40.62

**Movement, Approach, & Intersection Results**

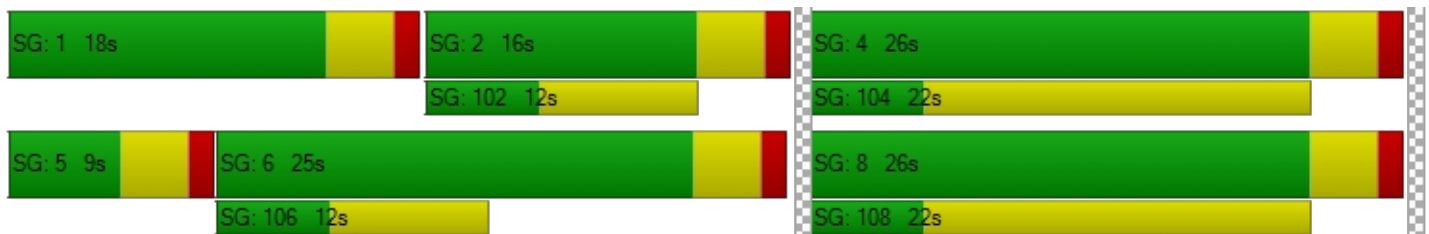
d_M, Delay for Movement [s/veh]	41.06	6.67	6.67	39.40	9.26	9.27	26.64	26.64	26.64	23.57	23.57	23.57
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.25			9.68			26.64			23.57		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	11.18											
Intersection LOS	B											
Intersection V/C	0.485											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.809			2.780			1.844			1.757		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			400			733			733		
d_b, Bicycle Delay [s]	12.69			19.22			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.428			2.515			1.865			1.685		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	30.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.753

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	630	97	129	806	5	8	0	9	141	1	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	190	160	148	113	0	0	0	0	52	0	62
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	65	0	0	1	0	0	2	0	0	27
Total Hourly Volume [veh/h]	4	833	194	280	935	4	8	0	7	196	1	81
Peak Hour Factor	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830	0.8830
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	236	55	79	265	1	2	0	2	55	0	23
Total Analysis Volume [veh/h]	5	943	220	317	1059	5	9	0	8	222	1	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	19	0	15	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	22	22	11	32	32	15	15	15
g / C, Green / Cycle	0.01	0.36	0.36	0.18	0.54	0.54	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.00	0.33	0.33	0.20	0.30	0.30	0.07	0.22	0.06
s, saturation flow rate [veh/h]	1619	1800	1684	1619	1800	1797	234	999	1530
c, Capacity [veh/h]	12	649	607	297	966	964	152	376	392
d1, Uniform Delay [s]	29.68	18.43	18.45	24.51	9.15	9.15	18.24	21.39	17.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.17	21.13	22.52	44.29	2.26	2.27	0.32	1.50	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.93	0.93	1.07	0.55	0.55	0.11	0.59	0.23
d, Delay for Lane Group [s/veh]	52.85	39.56	40.97	68.80	11.42	11.42	18.56	22.89	17.97
Lane Group LOS	D	D	D	F	B	B	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.14	10.82	10.38	7.56	4.27	4.27	0.18	2.89	0.96
50th-Percentile Queue Length [ft/ln]	3.58	270.57	259.61	189.01	106.85	106.74	4.42	72.17	24.08
95th-Percentile Queue Length [veh/ln]	0.26	16.22	15.67	12.44	7.66	7.66	0.32	5.20	1.73
95th-Percentile Queue Length [ft/ln]	6.45	405.45	391.73	310.88	191.61	191.46	7.96	129.90	43.34

**Movement, Approach, & Intersection Results**

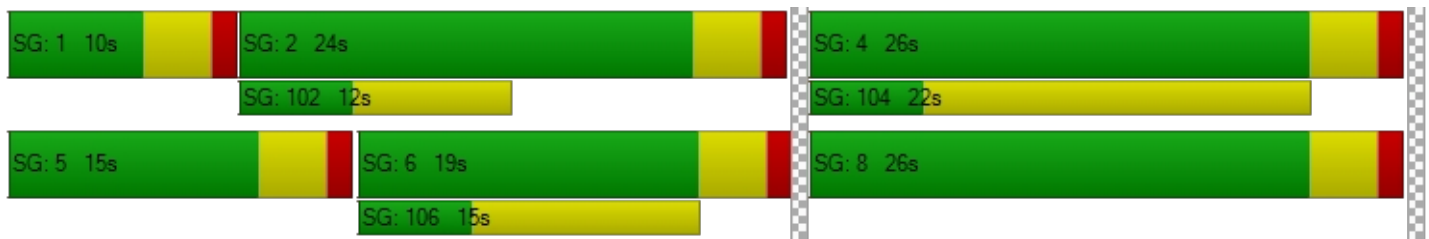
d_M, Delay for Movement [s/veh]	52.85	40.08	40.97	68.80	11.42	11.42	18.56	18.56	18.56	22.89	22.89	17.97
Movement LOS	D	D	D	F	B	B	B	B	B	C	C	B
d_A, Approach Delay [s/veh]	40.30			24.59			18.56			21.45		
Approach LOS	D			C			B			C		
d_I, Intersection Delay [s/veh]	30.58											
Intersection LOS	C											
Intersection V/C	0.753											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.69	21.69	21.69
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.773	1.714	2.266
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	666	733	733
d_b, Bicycle Delay [s]	16.88	13.34	12.04	12.04
I_b,int, Bicycle LOS Score for Intersection	2.577	2.700	1.591	2.124
Bicycle LOS	B	B	A	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	74.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.931

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	170	73	84	81	0	0	0	0	20	0	180
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	7	0	0	0	0	0	168
Total Hourly Volume [veh/h]	42	442	433	559	469	20	29	66	27	235	101	503
Peak Hour Factor	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760	0.8760
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	126	124	160	134	6	8	19	8	67	29	144
Total Analysis Volume [veh/h]	48	505	494	638	535	23	33	75	31	268	115	574
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	69	43	0	47	21	0	0	12	0	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	39	39	43	77	77	8	8	24
g / C, Green / Cycle	0.04	0.30	0.30	0.33	0.60	0.60	0.06	0.06	0.18
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.31	0.35	0.15	0.01	0.02	0.06	0.21
s, saturation flow rate [veh/h]	1781	3560	1589	1810	3560	1615	1810	1807	1836
c, Capacity [veh/h]	63	1072	479	597	2120	962	110	110	339
d1, Uniform Delay [s]	62.13	37.00	45.43	43.55	12.51	10.79	58.38	60.88	53.00
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.38
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.54	1.49	49.61	56.42	0.29	0.05	1.49	31.24	83.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.76	0.47	1.03	1.07	0.25	0.02	0.30	0.96	1.13
d, Delay for Lane Group [s/veh]	78.67	38.48	95.03	99.97	12.80	10.83	59.87	92.12	136.07
Lane Group LOS	E	D	F	F	B	B	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.87	6.80	21.92	28.34	3.77	0.29	1.09	4.45	18.87
50th-Percentile Queue Length [ft/ln]	46.69	170.10	548.00	708.58	94.35	7.14	27.21	111.25	471.70
95th-Percentile Queue Length [veh/ln]	3.36	11.08	30.22	38.77	6.79	0.51	1.96	7.91	27.66
95th-Percentile Queue Length [ft/ln]	84.04	277.04	755.40	969.27	169.84	12.86	48.98	197.73	691.48

**Movement, Approach, & Intersection Results**

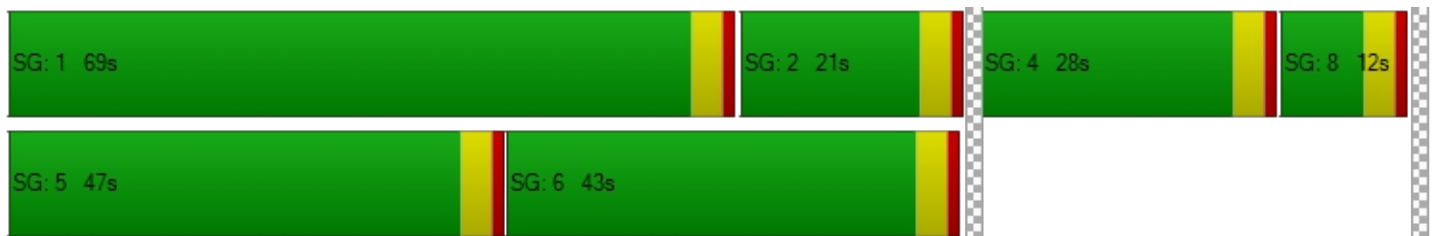
d_M, Delay for Movement [s/veh]	78.67	38.48	95.03	99.97	12.80	10.83	59.87	92.12	92.12	136.07	136.07	0.00
Movement LOS	E	D	F	F	B	B	E	F	F	F	F	
d_A, Approach Delay [s/veh]	67.01			59.26			84.46			136.07		
Approach LOS	E			E			F			F		
d_I, Intersection Delay [s/veh]	74.10											
Intersection LOS	E											
Intersection V/C	0.931											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	600			262			123			369		
d_b, Bicycle Delay [s]	31.85			49.11			57.25			43.22		
I_b,int, Bicycle LOS Score for Intersection	2.423			2.552			1.789			2.192		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	34.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.831

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	5	163	17	227	359	505	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	48	0	22	80	79	0	0	178	169
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	5	0	0	0
Total Hourly Volume [veh/h]	9	5	5	214	17	254	446	594	16	5	740	394
Peak Hour Factor	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040	0.9040
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	59	5	70	123	164	4	1	205	109
Total Analysis Volume [veh/h]	10	6	6	237	19	281	493	657	18	6	819	436
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	46	55	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27	29	56	56	1	28	28
g / C, Green / Cycle	0.28	0.28	0.28	0.30	0.59	0.59	0.01	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.12	0.28	0.18	0.28	0.18	0.01	0.00	0.23	0.27
s, saturation flow rate [veh/h]	190	914	1589	1781	3560	1615	1781	3560	1589
c, Capacity [veh/h]	108	328	444	536	2084	945	16	1045	466
d1, Uniform Delay [s]	27.97	34.51	29.97	32.11	10.02	8.26	46.83	30.81	32.69
k, delay calibration	0.50	0.50	0.50	0.18	0.11	0.11	0.11	0.11	0.35
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.21	16.61	6.71	10.95	0.09	0.01	14.13	1.33	22.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.20	0.78	0.63	0.92	0.32	0.02	0.38	0.78	0.93
d, Delay for Lane Group [s/veh]	32.18	51.12	36.68	43.06	10.10	8.27	60.96	32.14	54.98
Lane Group LOS	C	D	D	D	B	A	E	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.49	7.29	6.34	12.24	3.26	0.15	0.20	8.58	12.36
50th-Percentile Queue Length [ft/ln]	12.14	182.37	158.39	306.10	81.61	3.71	5.06	214.39	308.93
95th-Percentile Queue Length [veh/ln]	0.87	11.72	10.46	17.98	5.88	0.27	0.36	13.38	18.12
95th-Percentile Queue Length [ft/ln]	21.86	293.10	261.59	449.57	146.89	6.68	9.12	334.45	453.06

**Movement, Approach, & Intersection Results**

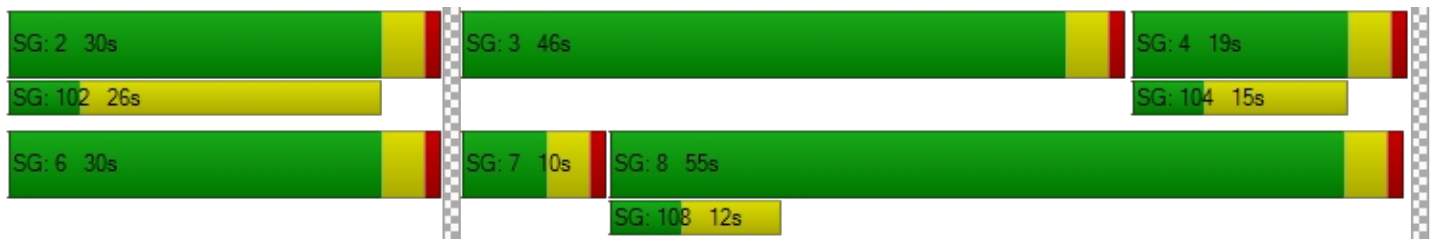
d_M, Delay for Movement [s/veh]	32.18	32.18	32.18	51.12	51.12	36.68	43.06	10.10	8.27	60.96	32.14	54.98
Movement LOS	C	C	C	D	D	D	D	B	A	E	C	D
d_A, Approach Delay [s/veh]	32.18			43.56			23.99			40.17		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	34.40											
Intersection LOS	C											
Intersection V/C	0.831											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	38.93	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.753	2.423	2.849	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	547	1074	316
d_b, Bicycle Delay [s]	25.06	25.06	10.19	33.69
I_b,int, Bicycle LOS Score for Intersection	1.596	2.446	2.527	2.600
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	341	0	0	117	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	0	0	0	21	0	0	0
Total Hourly Volume [veh/h]	80	1129	155	31	760	0	4	31	63	103	17	21
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	304	42	8	205	0	1	8	17	28	5	6
Total Analysis Volume [veh/h]	86	1218	167	33	820	0	4	33	68	111	18	23
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	39	62	0	9	32	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	84	84	3	80	80	7	7	9	9
g / C, Green / Cycle	0.06	0.70	0.70	0.03	0.67	0.67	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.05	0.65	0.10	0.02	0.44	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1890	1615	1810	1729
c, Capacity [veh/h]	111	1312	1133	50	1249	1062	110	94	142	136
d1, Uniform Delay [s]	55.50	15.35	5.97	57.74	11.77	0.00	54.28	55.55	54.27	52.18
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.76	12.78	0.27	13.54	2.70	0.00	1.77	9.90	8.87	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.77	0.93	0.15	0.66	0.66	0.00	0.34	0.72	0.78	0.30
d, Delay for Lane Group [s/veh]	66.26	28.13	6.24	71.28	14.47	0.00	56.05	65.45	63.14	53.41
Lane Group LOS	E	C	A	E	B	A	E	E	E	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.90	29.30	1.40	1.18	12.86	0.00	1.13	2.28	3.64	1.22
50th-Percentile Queue Length [ft/ln]	72.44	732.41	35.01	29.54	321.52	0.00	28.26	57.08	91.06	30.38
95th-Percentile Queue Length [veh/ln]	5.22	38.17	2.52	2.13	18.74	0.00	2.03	4.11	6.56	2.19
95th-Percentile Queue Length [ft/ln]	130.40	954.33	63.01	53.18	468.55	0.00	50.86	102.75	163.90	54.69

**Movement, Approach, & Intersection Results**

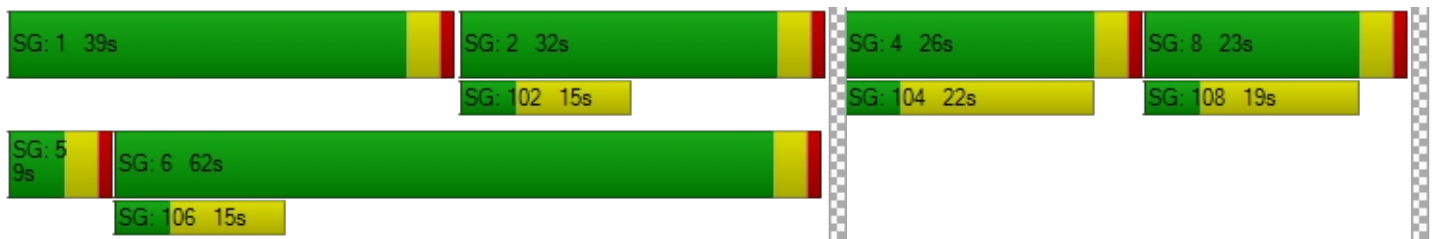
d_M, Delay for Movement [s/veh]	66.26	28.13	6.24	71.28	14.47	0.00	56.05	56.05	65.45	63.14	53.41	53.41
Movement LOS	E	C	A	E	B	A	E	E	E	E	D	D
d_A, Approach Delay [s/veh]	27.87			16.67			62.14			60.51		
Approach LOS	C			B			E			E		
d_I, Intersection Delay [s/veh]	27.49											
Intersection LOS	C											
Intersection V/C	0.773											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	51.35			51.35			51.35			51.35		
l_p,int, Pedestrian LOS Score for Intersection	2.840			2.724			2.060			2.097		
Crosswalk LOS	C			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	967			467			317			367		
d_b, Bicycle Delay [s]	16.02			35.27			42.51			40.02		
l_b,int, Bicycle LOS Score for Intersection	4.073			2.967			1.768			1.810		
Bicycle LOS	D			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1004	197	41	760	0	0	0	9	197	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	353	0	4	113	0	0	0	0	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	50	0	0	0	0	0	2	0	0	14
Total Hourly Volume [veh/h]	31	1377	151	46	888	0	0	0	7	201	5	41
Peak Hour Factor	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060	0.9060
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	380	42	13	245	0	0	0	2	55	1	11
Total Analysis Volume [veh/h]	34	1520	167	51	980	0	0	0	8	222	6	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	18	26	26	9	17	0	0	14	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	48	48	3	49	49	1	1	7	7	7
g / C, Green / Cycle	0.03	0.64	0.64	0.04	0.65	0.65	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.42	0.10	0.03	0.26	0.26	0.00	0.00	0.06	0.06	0.03
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	65	2294	1024	82	1223	1223	23	19	174	174	155
d1, Uniform Delay [s]	35.65	8.69	5.62	35.28	6.43	6.43	0.00	36.91	32.81	32.80	31.62
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.52	1.53	0.34	7.43	0.98	0.98	0.00	13.64	4.14	4.13	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.53	0.66	0.16	0.62	0.40	0.40	0.00	0.42	0.66	0.66	0.29
d, Delay for Lane Group [s/veh]	42.17	10.22	5.96	42.71	7.41	7.41	0.00	50.55	36.95	36.93	32.64
Lane Group LOS	D	B	A	D	A	A	A	D	D	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.71	6.66	0.97	1.06	3.31	3.31	0.00	0.22	2.14	2.15	0.78
50th-Percentile Queue Length [ft/ln]	17.87	166.47	24.36	26.61	82.69	82.69	0.00	5.39	53.60	53.69	19.61
95th-Percentile Queue Length [veh/ln]	1.29	10.89	1.75	1.92	5.95	5.95	0.00	0.39	3.86	3.87	1.41
95th-Percentile Queue Length [ft/ln]	32.16	272.26	43.85	47.90	148.85	148.85	0.00	9.71	96.48	96.64	35.30

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	42.17	10.22	5.96	42.71	7.41	7.41	0.00	0.00	50.55	36.94	36.93	32.64
Movement LOS	D	B	A	D	A	A	A	A	D	D	D	C
d_A, Approach Delay [s/veh]	10.44			9.16			50.55			36.23		
Approach LOS	B			A			D			D		
d_I, Intersection Delay [s/veh]	12.43											
Intersection LOS	B											
Intersection V/C	0.516											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			29.10			0.00			29.10		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.801			0.000			2.279		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	586			346			266			586		
d_b, Bicycle Delay [s]	18.78			25.68			28.23			18.78		
I_b,int, Bicycle LOS Score for Intersection	3.021			2.410			1.576			2.033		
Bicycle LOS	C			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	153	260	0	0	831	137	0	0	0	101	0	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	68	0	0	107	6	0	0	0	0	0	284
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	37	0	0	0	0	0	318
Total Hourly Volume [veh/h]	156	333	0	0	955	109	0	0	0	103	0	954
Peak Hour Factor	0.8970	0.8970	1.0000	1.0000	0.8970	0.8970	1.0000	1.0000	1.0000	0.8970	1.0000	0.8970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	93	0	0	266	30	0	0	0	29	0	266
Total Analysis Volume [veh/h]	174	371	0	0	1065	122	0	0	0	115	0	1064
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.59		0.09
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.29		0.06
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	222	2822	2138		157
d1, Uniform Delay [s]	25.61	1.62	7.13		26.79
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.96	0.10	0.83		6.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.78	0.13	0.50		0.73
d, Delay for Lane Group [s/veh]	31.58	1.72	7.97		33.19
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.63	0.20	3.20		1.80
50th-Percentile Queue Length [ft/ln]	65.86	4.93	80.03		44.98
95th-Percentile Queue Length [veh/ln]	4.74	0.35	5.76		3.24
95th-Percentile Queue Length [ft/ln]	118.55	8.87	144.05		80.96

**Movement, Approach, & Intersection Results**

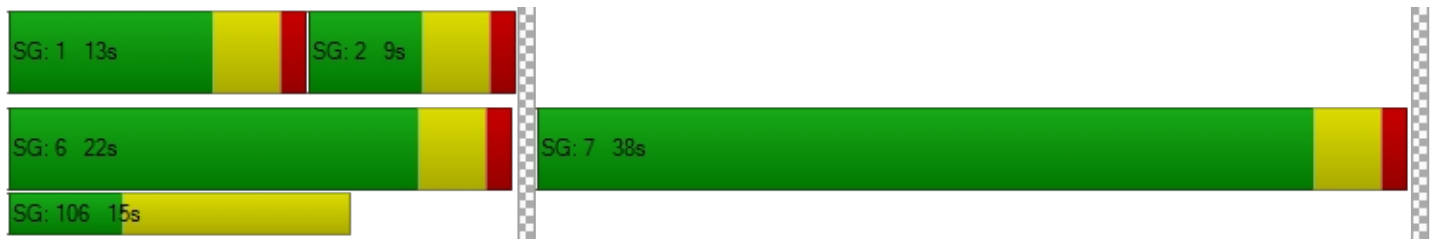
d_M, Delay for Movement [s/veh]	31.58	1.72	0.00	0.00	7.97	0.00	0.00	0.00	0.00	0.00	33.19	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	11.25				7.97				0.00		33.19		
Approach LOS	B				A				A		C		
d_I, Intersection Delay [s/veh]	10.69												
Intersection LOS	B												
Intersection V/C	0.454												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.958	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	2.009		2.438		4.132		1.560	
Bicycle LOS	B		B		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.666

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↔			↔↑↑			↔↔↔					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	127	664	265	0	112	0	337	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	62	0	84	23	0	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	33	0	0	0	0	0	86	0	0	0
Total Hourly Volume [veh/h]	0	369	97	761	293	0	120	0	258	0	0	0
Peak Hour Factor	1.0000	0.9200	0.9200	0.9200	0.9200	1.0000	0.9200	1.0000	0.9200	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	26	207	80	0	33	0	70	0	0	0
Total Analysis Volume [veh/h]	0	401	105	827	318	0	130	0	280	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	36	48	0	12	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	11	29	44	8	8	
g / C, Green / Cycle	0.18	0.49	0.74	0.13	0.13	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.46	0.09	0.07	0.10	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	663	881	2665	236	372	
d1, Uniform Delay [s]	22.56	14.58	2.29	24.52	25.23	
k, delay calibration	0.50	0.35	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	4.06	14.38	0.09	2.01	3.08	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.60	0.94	0.12	0.55	0.75	
d, Delay for Lane Group [s/veh]	26.62	28.96	2.38	26.53	28.31	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	2.79	12.19	0.30	1.76	1.97	
50th-Percentile Queue Length [ft/ln]	69.80	304.64	7.38	44.06	49.17	
95th-Percentile Queue Length [veh/ln]	5.03	17.91	0.53	3.17	3.54	
95th-Percentile Queue Length [ft/ln]	125.64	447.76	13.28	79.31	88.50	



**Movement, Approach, & Intersection Results**

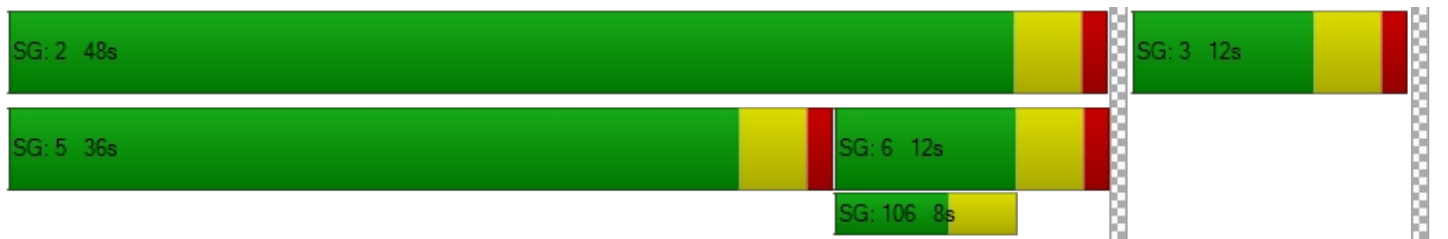
d_M, Delay for Movement [s/veh]	0.00	26.62	0.00	28.96	2.38	0.00	26.53	0.00	28.31	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	26.62			21.58			27.74			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	23.90											
Intersection LOS	C											
Intersection V/C	0.666											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.210		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			1465			266			0		
d_b, Bicycle Delay [s]	22.57			2.15			22.57			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.890			2.504			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	11	0	0	11	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	18	32	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	0	18	43	0	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	5	11	0	1
Total Analysis Volume [veh/h]	20	0	19	45	0	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.28	0.00	9.09	8.42
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.90	0.90	0.36	0.36
d_A, Approach Delay [s/veh]	0.00		2.16		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.03					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0200	1.0000	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	0	32	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	19	0	0	43	0	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	0	0	11	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	20	0	0	45	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.85	9.09	8.39	8.82	9.21	8.51	7.20	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.16	0.16	0.16	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.70	1.70	1.70	3.94	3.94	3.94	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.09			9.21			2.40			2.40		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.17											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	11	0	0	11	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	4	5	27	0	0	0	0	15	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	18	4	5	38	0	0	0	0	15	0	1
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	1	1	10	0	0	0	0	4	0	0
Total Analysis Volume [veh/h]	0	19	4	5	40	0	0	0	0	15	0	1
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.25	0.00	0.00	8.91	9.40	8.47	8.97	9.45	8.46
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.00	0.00	1.31	1.31	1.31
d_A, Approach Delay [s/veh]	0.00			0.81			8.93			8.94		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.13											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	254	209	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	34	105	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	293	318	0	0	2
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	77	84	0	0	1
Total Analysis Volume [veh/h]	9	308	335	0	0	2
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.93	0.00	0.00	0.00	0.00	10.07
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.55	0.55	0.00	0.00	0.00	0.21
d_A, Approach Delay [s/veh]	0.23		0.00		10.07	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	254	0	0	209	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	44	9	9	82	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	303	9	9	295	0	5
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	2	2	78	0	1
Total Analysis Volume [veh/h]	319	9	9	311	0	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.92	0.00	0.00	10.02
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.55	0.55	0.00	0.52
d_A, Approach Delay [s/veh]	0.00		0.22		10.02	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	254	0	0	209	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	30	52	30	0	78	4	1	0	8	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	1	0	0	2	0	0	0
Total Hourly Volume [veh/h]	30	311	22	0	291	3	1	0	6	8	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	82	6	0	77	1	0	0	2	2	0	0
Total Analysis Volume [veh/h]	32	327	23	0	306	3	1	0	6	8	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	28	0	9	26	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	47	0	45	1	1
g / C, Green / Cycle	0.04	0.79	0.00	0.75	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.02	0.20	0.00	0.17	0.00	0.00
s, saturation flow rate [veh/h]	1714	1779	1714	1797	1758	1660
c, Capacity [veh/h]	63	1399	3	1350	90	140
d1, Uniform Delay [s]	28.45	1.71	0.00	2.24	29.45	29.47
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.25	0.43	0.00	0.40	0.36	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.25	0.00	0.23	0.08	0.06
d, Delay for Lane Group [s/veh]	34.70	2.14	0.00	2.64	29.81	29.64
Lane Group LOS	C	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.52	0.17	0.00	0.61	0.10	0.12
50th-Percentile Queue Length [ft/ln]	12.94	4.17	0.00	15.22	2.62	2.90
95th-Percentile Queue Length [veh/ln]	0.93	0.30	0.00	1.10	0.19	0.21
95th-Percentile Queue Length [ft/ln]	23.29	7.50	0.00	27.39	4.71	5.22

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	34.70	2.14	2.14	0.00	2.64	2.64	29.81	29.81	29.81	29.64	29.64	29.64
Movement LOS	C	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.87			2.64			29.81			29.64		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.42											
Intersection LOS	A											
Intersection V/C	0.202											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.291			2.131			1.720			1.715		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			732			632			632		
d_b, Bicycle Delay [s]	10.83			12.07			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.203			2.071			1.574			1.573		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-








**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	62	80	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	9	77	278	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	9	140	360	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	2	37	95	2
Total Analysis Volume [veh/h]	2	2	9	147	379	9
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.30	10.43	8.07	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.53	0.53	0.58	0.58	0.00	0.00
d_A, Approach Delay [s/veh]	11.36		0.47		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	27	26	26	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	1	9	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	33	28	36	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	7	9	1	0
Total Analysis Volume [veh/h]	0	35	29	38	3	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.33	0.00	0.00	0.00	8.91	8.52
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	0.00		0.00		8.91	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.25					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	7	0	0	30	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	9	0	1	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	9	0	32	2	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	0	8	1	0
Total Analysis Volume [veh/h]	13	9	0	34	2	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.75	8.38
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.16	0.16
d_A, Approach Delay [s/veh]	0.00		0.00		8.75	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.30					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	7	0	0	30	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	19	0	4	0	0	0	0	5	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	21	19	0	35	0	0	0	0	5	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	5	0	9	0	0	0	0	1	0	0
Total Analysis Volume [veh/h]	0	22	20	0	37	0	0	0	0	5	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**




V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.28	0.00	0.00	8.88	9.42	8.46	8.90	9.38	8.46
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.41	0.41
d_A, Approach Delay [s/veh]	0.00			0.00			8.92			8.90		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.53											
Intersection LOS	A											



**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	79	82	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	88	319	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	169	403	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	44	106	3
Total Analysis Volume [veh/h]	3	0	0	178	424	11
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.37	9.58	8.17	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.46	0.46	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.37		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	57	46	0	0	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	15	12	0	0	1
Total Analysis Volume [veh/h]	19	60	48	0	0	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	0.00	9.30	8.52
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.92	0.92	0.00	0.00	0.37	0.37
d_A, Approach Delay [s/veh]	1.76		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.38					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	56	45	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	18	5	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	75	51	0	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	20	13	0	0	1
Total Analysis Volume [veh/h]	16	79	54	0	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.33	0.00	0.00	0.00	9.40	8.55
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.77	0.77	0.00	0.00	0.30	0.30
d_A, Approach Delay [s/veh]	1.23		0.00		8.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.99					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 9 OY AM + P

Report File: C:\...ID OY AM + P.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	670	836	328	574	734	1116	1069	653	427	705	7112

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	149	1296	96	658	1018	170	197	217	61	53	260	394	4569

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1478	23	57	1035	10	64	2667

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	137	1278	36	125	819	85	107	70	42	49	95	110	2953

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	14	3	8	11	0	10	9	279	35	26	251	10	656

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	73	186	33	6	135	5	5	141	119	62	180	19	964

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	244	108	40	256	238	117	1003

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	14	8	10	16	12	33	7	153	24	8	213	18	516

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	35	4	1	141	364	39	584

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	5	39	5	22	18	13	1	163	6	3	395	50	720

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	448	1214	1317	1032	542	5	496	5054

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1123	457	495	1422	541	4	607	4649

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	9	1395	4	82	1738	194	94	0	33	0	0	101	3650

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	116	977	15	224	1307	261	229	84	86	11	127	198	3635

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	96	918	18	63	1232	72	71	45	91	10	69	39	2724



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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	152	855	33	94	1016	223	107	42	59	31	64	50	2726

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	23	1000	1	19	1047	20	83	30	26	21	16	18	2304

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	74	906	9	15	1046	26	48	12	114	46	11	14	2321

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	833	259	280	935	5	8	0	9	196	1	108	2638

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	42	442	433	559	469	27	29	66	27	235	101	671	3101

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	5	214	17	254	446	594	21	5	740	394	2704

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	80	1129	207	31	760	0	4	31	84	103	17	21	2467

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	31	1377	201	46	888	0	0	0	9	201	5	55	2813

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	156	333	955	146	103	1272	2965

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	369	130	761	293	120	344	2017

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	19	0	18	43	0	5	85

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume	
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
27	Laurel Ave/Driveway 2	0	19	0	0	43	0	0	0	0	0	0	0	0	62

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	18	4	5	38	0	0	0	0	15	0	1	81

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	9	293	318	0	2	622	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	303	9	9	295	5	621	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	30	311	30	0	291	4	1	0	8	8	0	0	683

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	2	2	9	140	360	9	522

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	33	28	36	3	0	100

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	12	9	0	32	2	0	55

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	21	19	0	35	0	0	0	0	5	0	0	80

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	3	0	0	169	403	10	585

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	18	57	46	0	0	5	126

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	15	75	51	0	0	4	145

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**Option 1: SP Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Total Analysis Volume [veh/h]	85	210	39	7	159	6	6	176	152	69	219	21

**Intersection Settings**

**Lanes**




Capacity per Entry Lane [veh/h]	486	530	496	524	580	529
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	11.68	15.38	14.05	12.75	11.39	18.94
95th-Percentile Queue Length [veh]	0.63	2.48	1.53	1.36	1.18	3.72
95th-Percentile Queue Length [ft]	15.72	62.11	38.33	34.05	29.62	92.92
Approach Delay [s/veh]	14.44		14.05	12.07		18.94
Approach LOS	B		B	B		C
Intersection Delay [s/veh]	14.90					
Intersection LOS	B					

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**Option 1: SP Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	208	39	22	177	37	37
Total Analysis Volume [veh/h]	276	125	59	283	263	149

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	44	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.58	0.58	0.29
(v / s)_i Volume / Saturation Flow Rate	0.24	0.22	0.25
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1679	1557	1643
c, Capacity [veh/h]	968	968	477
X, volume / capacity	0.41	0.35	0.86
d, Delay for Lane Group [s/veh]	8.38	7.71	25.02
Lane Group LOS	A	A	C

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Critical Lane Group	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	2.19	2.04	5.57
50th-Percentile Queue Length [ft/ln]	54.74	50.98	139.21
95th-Percentile Queue Length [veh/ln]	3.94	3.67	9.44
95th-Percentile Queue Length [ft/ln]	98.53	91.77	235.95

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	8.38	8.38	7.71	7.71	25.02	25.02
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	8.38		7.71		25.02	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	14.12					
Intersection LOS	B					
Intersection V/C	0.490					

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**Option 1: SP EB Right to EB Thru-Right**

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⊕			⊕			⊕⊕			⊕⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Total Analysis Volume [veh/h]	6	50	6	36	23	17	1	238	8	4	637	95

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	576	579	631	636	688	795
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	10.00	10.15	9.79	9.72	42.04	7.84
95th-Percentile Queue Length [veh]	0.36	0.45	0.72	0.71	12.87	0.41
95th-Percentile Queue Length [ft]	9.00	11.24	18.06	17.86	321.87	10.14
Approach Delay [s/veh]	10.00	10.15	9.75		37.62	
Approach LOS	B		B		E	
Intersection Delay [s/veh]	28.09					
Intersection LOS	D					

Option 1: SP SB Thru to SB Thru Right

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Total Analysis Volume [veh/h]	472	1260	0	0	1407	800	0	0	0	598	5	385

Intersection Settings

Cycle Length [s]	125											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	37	82	0	0	45	0	0	0	0	0	43	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.26	0.62	0.33	0.33	0.33		0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.29	0.39	0.32	0.36	0.36		0.35	0.25
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3			3	3	
s, saturation flow rate [veh/h]	1619	3237	3427	1530	1530		1715	1530
c, Capacity [veh/h]	428	2020	1124	502	502		535	477
X, volume / capacity	1.10	0.62	0.98	1.10	1.10		1.13	0.81
d, Delay for Lane Group [s/veh]	120.69	15.91	64.33	111.96	111.96		122.09	48.60
Lane Group LOS	F	B	E	F	F		F	D



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Critical Lane Group	Yes	No	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	22.04	10.89	20.18	25.03	25.03		28.06	12.00
50th-Percentile Queue Length [ft/ln]	551.05	272.37	504.61	625.70	625.70		701.59	300.12
95th-Percentile Queue Length [veh/ln]	31.54	16.31	27.55	35.34	35.34		39.66	17.69
95th-Percentile Queue Length [ft/ln]	788.55	407.70	688.81	883.48	883.48		991.58	442.18

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	120.69	15.91	0.00	0.00	64.33	111.96	0.00	0.00	0.00	122.09	122.09	48.60
Movement LOS	F	B			E	F				F	F	D
Critical Movement	No	No			No	No				Yes	No	No
d_A, Approach Delay [s/veh]	44.46			88.14			0.00			93.45		
Approach LOS	D			F			A			F		
d_I, Intersection Delay [s/veh]	73.85											
Intersection LOS	E											
Intersection V/C	1.004											

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Option 1: SP 2nd EB Left

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Total Analysis Volume [veh/h]	124	1065	16	239	1519	279	244	90	92	12	136	211

Intersection Settings

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	30	0	55	70	0	15	36	0	9	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.08	0.47	0.47	0.17	0.55	0.55	0.08	0.23	0.23	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.31	0.31	0.15	0.51	0.54	0.08	0.03	0.06	0.01	0.08	0.14
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1593	1772	1762	1593	1772	1680	3095	3186	1422	1593	1772	1506
c, Capacity [veh/h]	136	830	826	266	975	924	264	724	323	23	277	235
X, volume / capacity	0.91	0.65	0.65	0.90	0.92	0.97	0.93	0.12	0.28	0.52	0.49	0.90
d, Delay for Lane Group [s/veh]	79.02	30.42	30.45	63.69	41.96	52.02	72.26	40.03	41.99	80.89	51.46	69.76
Lane Group LOS	E	C	C	E	D	D	E	D	D	F	D	E

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	4.81	13.64	13.58	8.43	28.49	31.90	4.48	1.17	2.50	0.51	4.17	7.81
50th-Percentile Queue Length [ft/ln]	120.26	340.98	339.47	210.82	712.21	797.53	111.95	29.15	62.59	12.64	104.15	195.26
95th-Percentile Queue Length [veh/ln]	8.41	19.70	19.62	13.20	37.24	41.16	7.95	2.10	4.51	0.91	7.50	12.39
95th-Percentile Queue Length [ft/ln]	210.19	492.39	490.55	329.88	931.04	1029.10	198.71	52.48	112.66	22.75	187.47	309.85

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	79.02	30.43	30.45	63.69	46.07	52.02	72.26	40.03	41.99	80.89	51.46	69.76
Movement LOS	E	C	C	E	D	D	E	D	D	F	D	E
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	35.43			48.95			58.92			63.20		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	47.23											
Intersection LOS	D											
Intersection V/C	0.832											

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**Option 1: SP EB Left**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Total Analysis Volume [veh/h]	215	930	27	102	1137	323	134	48	58	34	77	54

**Intersection Settings**

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	19	0	40	42	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.15	0.57	0.57	0.08	0.50	0.50	0.20	0.20	0.20	0.20	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.13	0.27	0.27	0.06	0.42	0.43	0.10	0.03	0.04	0.07	0.04	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1772	1754	1593	1772	1640	1322	1800	1530	1671	1506	1506
c, Capacity [veh/h]	247	1019	1009	129	893	827	247	364	310	393	305	305
X, volume / capacity	0.87	0.47	0.47	0.79	0.84	0.86	0.54	0.13	0.19	0.28	0.18	0.18
d, Delay for Lane Group [s/veh]	44.36	12.08	12.10	48.57	27.36	29.92	38.25	27.95	28.40	29.21	28.32	28.32
Lane Group LOS	D	B	B	D	C	C	D	C	C	C	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	4.87	5.17	5.13	2.42	13.76	13.76	2.78	0.80	0.99	1.93	0.92
50th-Percentile Queue Length [ft/ln]	121.87	129.24	128.14	60.43	343.88	344.00	69.55	20.05	24.63	48.16	22.88
95th-Percentile Queue Length [veh/ln]	8.50	8.90	8.84	4.35	19.84	19.84	5.01	1.44	1.77	3.47	1.65
95th-Percentile Queue Length [ft/ln]	212.39	222.46	220.97	108.77	495.94	496.08	125.20	36.08	44.33	86.69	41.19

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.36	12.09	12.10	48.57	28.23	29.92	38.25	27.95	28.40	29.21	29.21	28.32
Movement LOS	D	B	B	D	C	C	D	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	18.01			29.91			33.81			28.92		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	25.71											
Intersection LOS	C											
Intersection V/C	0.668											

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**Option 1: SP 2nd SB Left**

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Total Analysis Volume [veh/h]	48	516	494	646	538	23	33	75	31	268	115	599

**Intersection Settings**

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	24	0	20	34	0	0	19	0	0	22	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.04	0.33	0.33	0.19	0.48	0.48	0.08	0.08	0.21
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.31	0.18	0.15	0.01	0.02	0.06	0.21
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1781	3560	1589	3514	3560	1615	1810	1807	1836
c, Capacity [veh/h]	74	1178	526	662	1702	772	146	146	389
X, volume / capacity	0.65	0.44	0.94	0.98	0.32	0.03	0.23	0.72	0.98
d, Delay for Lane Group [s/veh]	49.57	23.48	54.36	45.85	14.16	11.84	37.42	44.87	55.22
Lane Group LOS	D	C	D	D	B	B	D	D	E

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.17	4.09	13.16	7.51	3.10	0.24	0.67	2.39	9.97
50th-Percentile Queue Length [ft/ln]	29.18	102.29	329.00	187.67	77.56	5.88	16.63	59.83	249.35
95th-Percentile Queue Length [veh/ln]	2.10	7.36	19.11	12.00	5.58	0.42	1.20	4.31	15.15
95th-Percentile Queue Length [ft/ln]	52.53	184.12	477.73	300.01	139.61	10.59	29.93	107.69	378.83

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.57	23.48	54.36	45.85	14.16	11.84	37.42	44.87	44.87	55.22	55.22	0.00
Movement LOS	D	C	D	D	B	B	D	D	D	E	E	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	39.08			31.08			43.10			55.22		
Approach LOS	D			C			D			E		
d_I, Intersection Delay [s/veh]	38.03											
Intersection LOS	D											
Intersection V/C	0.762											

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**Option 1: SP 2nd WB Left**

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Total Analysis Volume [veh/h]	86	1249	167	33	827	0	4	33	68	111	18	23

**Intersection Settings**

Cycle Length [s]	135											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	67	77	0	9	19	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.06	0.75	0.75	0.03	0.72	0.72	0.06	0.06	0.05	0.05	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.67	0.10	0.02	0.44	0.00	0.02	0.04	0.03	0.02	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1890	1615	3514	1729	
c, Capacity [veh/h]	110	1402	1211	48	1338	1137	108	92	170	83	
X, volume / capacity	0.78	0.89	0.14	0.69	0.62	0.00	0.34	0.74	0.65	0.49	
d, Delay for Lane Group [s/veh]	73.89	21.64	4.96	81.77	11.95	0.00	63.10	73.59	67.37	67.05	
Lane Group LOS	E	C	A	F	B	A	E	E	E	E	



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Critical Lane Group	No	Yes	No	Yes	NO	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	3.27	27.88	1.29	1.35	12.33	0.00	1.28	2.59	1.98	1.48
50th-Percentile Queue Length [ft/ln]	81.69	696.95	32.23	33.74	308.13	0.00	32.05	64.63	49.50	37.01
95th-Percentile Queue Length [veh/ln]	5.88	36.54	2.32	2.43	18.08	0.00	2.31	4.65	3.56	2.66
95th-Percentile Queue Length [ft/ln]	147.04	913.43	58.01	60.74	452.07	0.00	57.69	116.34	89.10	66.62

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	73.89	21.64	4.96	81.77	11.95	0.00	63.10	63.10	73.59	67.37	67.05	67.05
Movement LOS	E	C	A	F	B	A	E	E	E	E	E	E
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	22.78			14.63			69.89			67.28		
Approach LOS	C			B			E			E		
d_I, Intersection Delay [s/veh]	24.58											
Intersection LOS	C											
Intersection V/C	0.760											

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**Option 2: OY 1 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Total Analysis Volume [veh/h]	79	208	37	7	149	6	6	151	126	69	194	21

**Intersection Settings**

**Lanes**




Capacity per Entry Lane [veh/h]	509	558	524	544	603	551
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	11.05	14.09	12.92	11.63	10.48	16.29
95th-Percentile Queue Length [veh]	0.54	2.22	1.31	1.03	0.90	2.94
95th-Percentile Queue Length [ft]	13.62	55.50	32.63	25.84	22.60	73.40
Approach Delay [s/veh]	13.35		12.92	11.05		16.29
Approach LOS	B		B	B		C
Intersection Delay [s/veh]	13.46					
Intersection LOS	B					

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**Option 2: OY 1 Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	208	39	22	177	37	37
Total Analysis Volume [veh/h]	266	115	41	281	261	80

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	44	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.62	0.62	0.24
(v / s)_i Volume / Saturation Flow Rate	0.23	0.20	0.20
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1682	1649	1667
c, Capacity [veh/h]	1049	1096	406
X, volume / capacity	0.36	0.29	0.84
d, Delay for Lane Group [s/veh]	6.48	5.89	26.39
Lane Group LOS	A	A	C

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Critical Lane Group	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	1.62	1.54	4.72
50th-Percentile Queue Length [ft/ln]	40.38	38.47	117.92
95th-Percentile Queue Length [veh/ln]	2.91	2.77	8.28
95th-Percentile Queue Length [ft/ln]	72.68	69.24	206.97

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	6.48	6.48	5.89	5.89	26.39	26.39
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	6.48		5.89		26.39	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	12.80					
Intersection LOS	B					
Intersection V/C	0.431					

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Option 2: OY 1 EB Right to EB Thru-Right

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+ +		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Total Analysis Volume [veh/h]	6	50	6	27	23	17	1	201	8	4	464	52

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	637	643	670	678	706	820
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	9.26	9.26	9.07	8.98	17.23	7.39
95th-Percentile Queue Length [veh]	0.32	0.35	0.55	0.55	5.04	0.20
95th-Percentile Queue Length [ft]	8.05	8.69	13.82	13.65	126.05	5.07
Approach Delay [s/veh]	9.26	9.26	9.02		16.25	
Approach LOS	A	A	A		C	
Intersection Delay [s/veh]	13.43					
Intersection LOS	B					

Option 2: OY 1 SB Thru to SB Thru Right

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Total Analysis Volume [veh/h]	461	1253	0	0	1387	800	0	0	0	547	5	385

Intersection Settings

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	30	67	0	0	37	0	0	0	0	0	33	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.26	0.63	0.33	0.33	0.33		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.28	0.39	0.32	0.36	0.36		0.32	0.25
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3			3	3	
s, saturation flow rate [veh/h]	1619	3237	3427	1530	1530		1715	1530
c, Capacity [veh/h]	421	2039	1130	505	505		497	444
X, volume / capacity	1.09	0.61	0.97	1.08	1.08		1.11	0.87
d, Delay for Lane Group [s/veh]	105.12	12.57	52.95	97.99	97.99		109.38	47.95
Lane Group LOS	F	B	D	F	F		F	D

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Critical Lane Group	Yes	No	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	18.03	7.95	15.77	20.88	20.88		22.00	10.42
50th-Percentile Queue Length [ft/ln]	450.71	198.84	394.16	522.12	522.12		550.08	260.54
95th-Percentile Queue Length [veh/ln]	26.34	12.58	22.28	29.88	29.88		31.64	15.72
95th-Percentile Queue Length [ft/ln]	658.44	314.47	556.95	747.06	747.06		791.11	392.90

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	105.12	12.57	0.00	0.00	52.95	97.99	0.00	0.00	0.00	109.38	109.38	47.95
Movement LOS	F	B			D	F				F	F	D
Critical Movement	No	No			No	No				Yes	No	No
d_A, Approach Delay [s/veh]	37.46			75.47			0.00			84.14		
Approach LOS	D			E			A			F		
d_I, Intersection Delay [s/veh]	63.68											
Intersection LOS	E											
Intersection V/C	0.964											

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Option 2: OY 1 2nd EB Left

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Total Analysis Volume [veh/h]	124	1036	16	239	1396	279	244	90	92	12	136	211

Intersection Settings

Cycle Length [s]	115											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	34	0	37	57	0	14	35	0	9	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.09	0.45	0.45	0.17	0.53	0.53	0.09	0.23	0.23	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.30	0.30	0.15	0.47	0.50	0.08	0.03	0.06	0.01	0.08	0.14
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1593	1772	1762	1593	1772	1673	3095	3186	1422	1593	1772	1506
c, Capacity [veh/h]	140	789	784	269	932	880	271	740	330	24	283	240
X, volume / capacity	0.89	0.67	0.67	0.89	0.90	0.95	0.90	0.12	0.28	0.51	0.48	0.88
d, Delay for Lane Group [s/veh]	68.63	29.69	29.72	56.56	37.95	46.13	62.51	34.97	36.71	72.04	45.28	57.35
Lane Group LOS	E	C	C	E	D	D	E	C	D	E	D	E



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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	4.18	12.11	12.06	7.39	22.98	25.41	3.88	1.01	2.17	0.45	3.63	6.56
50th-Percentile Queue Length [ft/ln]	104.52	302.83	301.44	184.75	574.48	635.26	96.91	25.24	54.26	11.24	90.77	163.91
95th-Percentile Queue Length [veh/ln]	7.53	17.82	17.75	11.85	30.84	33.68	6.98	1.82	3.91	0.81	6.54	10.76
95th-Percentile Queue Length [ft/ln]	188.13	445.53	443.81	296.21	771.02	841.93	174.44	45.44	97.67	20.23	163.39	268.90

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	68.63	29.70	29.72	56.56	41.21	46.13	62.51	34.97	36.71	72.04	45.28	57.35
Movement LOS	E	C	C	E	D	D	E	C	D	E	D	E
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	33.81			43.85			51.12			53.27		
Approach LOS	C			D			D			D		
d_I, Intersection Delay [s/veh]	42.47											
Intersection LOS	D											
Intersection V/C	0.796											

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Option 2: OY 1 EB Left

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Total Analysis Volume [veh/h]	148	930	27	102	1137	218	111	46	46	34	66	54

Intersection Settings

Cycle Length [s]	75											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	19	0	30	36	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.11	0.57	0.57	0.08	0.54	0.54	0.19	0.19	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.09	0.27	0.27	0.06	0.39	0.40	0.08	0.03	0.03	0.06	0.04	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1772	1754	1593	1772	1674	1335	1800	1530	1658	1506	1506
c, Capacity [veh/h]	180	1012	1002	129	959	906	240	338	287	376	283	283
X, volume / capacity	0.82	0.48	0.48	0.79	0.72	0.73	0.46	0.14	0.16	0.27	0.19	0.19
d, Delay for Lane Group [s/veh]	41.65	11.07	11.09	44.03	17.66	18.28	33.98	25.57	25.76	26.57	25.98	25.98
Lane Group LOS	D	B	B	D	B	B	C	C	C	C	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	3.00	4.45	4.41	2.14	8.84	8.65	1.99	0.68	0.69	1.52	0.81
50th-Percentile Queue Length [ft/ln]	74.96	111.27	110.30	53.46	221.11	216.22	49.84	16.98	17.14	38.10	20.27
95th-Percentile Queue Length [veh/ln]	5.40	7.91	7.86	3.85	13.72	13.47	3.59	1.22	1.23	2.74	1.46
95th-Percentile Queue Length [ft/ln]	134.93	197.76	196.42	96.22	343.05	336.80	89.71	30.56	30.86	68.59	36.49

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	41.65	11.08	11.09	44.03	17.90	18.28	33.98	25.57	25.76	26.57	26.57	25.98
Movement LOS	D	B	B	D	B	B	C	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	15.18			19.79			30.21			26.36		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	19.11											
Intersection LOS	B											
Intersection V/C	0.571											

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**Option 2: OY 1 2nd SB Left**

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Total Analysis Volume [veh/h]	48	500	494	636	534	23	33	75	31	268	115	566

**Intersection Settings**

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	24	0	20	34	0	0	19	0	0	22	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.04	0.33	0.33	0.19	0.48	0.48	0.08	0.08	0.21
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.31	0.18	0.15	0.01	0.02	0.06	0.21
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1781	3560	1589	3514	3560	1615	1810	1807	1836
c, Capacity [veh/h]	74	1178	526	662	1702	772	146	146	389
X, volume / capacity	0.65	0.42	0.94	0.96	0.31	0.03	0.23	0.72	0.98
d, Delay for Lane Group [s/veh]	49.57	23.30	54.36	43.61	14.13	11.84	37.42	44.87	55.22
Lane Group LOS	D	C	D	D	B	B	D	D	E

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.17	3.94	13.16	7.19	3.08	0.24	0.67	2.39	9.97
50th-Percentile Queue Length [ft/ln]	29.18	98.51	329.00	179.75	76.88	5.88	16.63	59.83	249.35
95th-Percentile Queue Length [veh/ln]	2.10	7.09	19.11	11.59	5.54	0.42	1.20	4.31	15.15
95th-Percentile Queue Length [ft/ln]	52.53	177.32	477.73	289.68	138.38	10.59	29.93	107.69	378.83

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.57	23.30	54.36	43.61	14.13	11.84	37.42	44.87	44.87	55.22	55.22	0.00
Movement LOS	D	C	D	D	B	B	D	D	D	E	E	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	39.23			29.80			43.10			55.22		
Approach LOS	D			C			D			E		
d_I, Intersection Delay [s/veh]	37.57											
Intersection LOS	D											
Intersection V/C	0.759											

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Option 2: OY 1 2nd WB Left

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Total Analysis Volume [veh/h]	86	1207	167	33	818	0	4	33	68	111	18	23

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	39	62	0	9	32	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.73	0.73	0.03	0.70	0.70	0.06	0.06	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.05	0.65	0.10	0.02	0.44	0.00	0.02	0.04	0.03	0.02
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1890	1615	3514	1729
c, Capacity [veh/h]	111	1365	1178	50	1302	1107	110	94	177	87
X, volume / capacity	0.77	0.88	0.14	0.66	0.63	0.00	0.34	0.72	0.63	0.47
d, Delay for Lane Group [s/veh]	66.26	21.03	5.14	71.28	12.13	0.00	56.03	65.39	59.53	59.37
Lane Group LOS	E	C	A	E	B	A	E	E	E	E

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Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.90	24.08	1.22	1.18	11.33	0.00	1.13	2.28	1.74	1.30
50th-Percentile Queue Length [ft/ln]	72.44	602.00	30.51	29.54	283.24	0.00	28.25	57.05	43.47	32.59
95th-Percentile Queue Length [veh/ln]	5.22	32.13	2.20	2.13	16.85	0.00	2.03	4.11	3.13	2.35
95th-Percentile Queue Length [ft/ln]	130.40	803.19	54.91	53.18	421.24	0.00	50.85	102.69	78.24	58.66

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	66.26	21.03	5.14	71.28	12.13	0.00	56.03	56.03	65.39	59.53	59.37	59.37
Movement LOS	E	C	A	E	B	A	E	E	E	E	E	E
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	21.88			14.42			62.09			59.49		
Approach LOS	C			B			E			E		
d_I, Intersection Delay [s/veh]	23.28											
Intersection LOS	C											
Intersection V/C	0.738											

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**Option 3: OY 2 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	59	165	30	6	74	5	5	81	74	61	128	19
Total Analysis Volume [veh/h]	82	208	37	7	151	6	6	158	133	69	201	21

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	502	549	514	537	596	543
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	11.27	14.44	13.24	11.94	10.74	17.01
95th-Percentile Queue Length [veh]	0.58	2.28	1.36	1.12	0.98	3.15
95th-Percentile Queue Length [ft]	14.49	57.06	34.03	28.02	24.48	78.65
Approach Delay [s/veh]	13.65		13.24	11.34		17.01
Approach LOS	B		B	B		C
Intersection Delay [s/veh]	13.86					
Intersection LOS	B					



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**Option 3: OY 2 Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	208	39	22	177	37	37
Total Analysis Volume [veh/h]	268	119	44	281	261	97

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	44	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.61	0.61	0.25
(v / s)_i Volume / Saturation Flow Rate	0.23	0.20	0.22
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1680	1639	1660
c, Capacity [veh/h]	1029	1072	423
X, volume / capacity	0.38	0.30	0.85
d, Delay for Lane Group [s/veh]	6.92	6.26	26.06
Lane Group LOS	A	A	C

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Critical Lane Group	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	1.75	1.64	4.93
50th-Percentile Queue Length [ft/ln]	43.86	40.98	123.13
95th-Percentile Queue Length [veh/ln]	3.16	2.95	8.56
95th-Percentile Queue Length [ft/ln]	78.94	73.76	214.12

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	6.92	6.92	6.26	6.26	26.06	26.06
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	6.92		6.26		26.06	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	13.12					
Intersection LOS	B					
Intersection V/C	0.446					

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## Option 3: OY 2 EB Right to EB Thru-Right

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	5	38	5	14	18	13	1	72	6	3	65	17
Total Analysis Volume [veh/h]	6	50	6	28	23	17	1	208	8	4	504	64

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	624	628	662	669	703	816
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	9.41	9.43	9.20	9.12	19.97	7.49
95th-Percentile Queue Length [veh]	0.33	0.36	0.58	0.58	6.22	0.25
95th-Percentile Queue Length [ft]	8.24	9.06	14.58	14.40	155.56	6.37
Approach Delay [s/veh]	9.41	9.43	9.16		18.57	
Approach LOS	A	A	A		C	
Intersection Delay [s/veh]	15.05					
Intersection LOS	C					

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Option 3: OY 2 SB Thru to SB Thru Right

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	372	1158	0	0	1225	1012	0	0	0	339	5	486
Total Analysis Volume [veh/h]	463	1255	0	0	1362	800	0	0	58	560	5	385

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	27	60	0	0	33	0	0	0	0	0	30	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.26	0.62	0.32	0.32	0.32		0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.29	0.39	0.32	0.35	0.35		0.33	0.25
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3			3	3	
s, saturation flow rate [veh/h]	1619	3237	3427	1530	1530		1715	1530
c, Capacity [veh/h]	414	2014	1104	493	493		495	442
X, volume / capacity	1.12	0.62	0.98	1.10	1.10		1.14	0.87
d, Delay for Lane Group [s/veh]	107.30	11.96	52.77	100.01	100.01		115.03	42.72
Lane Group LOS	F	B	D	F	F		F	D

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Critical Lane Group	Yes	No	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	17.24	7.14	14.56	19.74	19.74		21.81	9.17
50th-Percentile Queue Length [ft/ln]	430.92	178.39	364.05	493.45	493.45		545.18	229.37
95th-Percentile Queue Length [veh/ln]	25.61	11.52	20.82	28.64	28.64		31.86	14.14
95th-Percentile Queue Length [ft/ln]	640.24	287.91	520.50	715.98	715.98		796.46	353.56

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	107.30	11.96	0.00	0.00	52.77	100.01	0.00	0.00	0.00	115.03	115.03	42.72
Movement LOS	F	B			D	F				F	F	D
Critical Movement	No	No			No	No				Yes	No	No
d_A, Approach Delay [s/veh]	37.65			76.39			0.00			85.73		
Approach LOS	D			E			A			F		
d_I, Intersection Delay [s/veh]	64.45											
Intersection LOS	E											
Intersection V/C	0.969											

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**Option 3: OY 2 2nd EB Left**

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	853	12	200	962	126	169	75	54	10	117	188
Total Analysis Volume [veh/h]	124	1043	16	239	1395	279	244	90	92	12	136	211

**Intersection Settings**

Cycle Length [s]	115											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	34	0	37	57	0	14	35	0	9	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.09	0.45	0.45	0.17	0.53	0.53	0.09	0.23	0.23	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.30	0.30	0.15	0.47	0.50	0.08	0.03	0.06	0.01	0.08	0.14
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1593	1772	1762	1593	1772	1673	3095	3186	1422	1593	1772	1506
c, Capacity [veh/h]	140	789	784	269	932	880	271	740	330	24	283	240
X, volume / capacity	0.89	0.67	0.67	0.89	0.90	0.95	0.90	0.12	0.28	0.51	0.48	0.88
d, Delay for Lane Group [s/veh]	68.63	29.85	29.88	56.56	37.89	46.02	62.51	34.97	36.71	72.04	45.28	57.35
Lane Group LOS	E	C	C	E	D	D	E	C	D	E	D	E

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	4.18	12.24	12.18	7.39	22.95	25.36	3.88	1.01	2.17	0.45	3.63	6.56
50th-Percentile Queue Length [ft/ln]	104.52	305.94	304.56	184.75	573.68	634.03	96.91	25.24	54.26	11.24	90.77	163.91
95th-Percentile Queue Length [veh/ln]	7.53	17.97	17.91	11.85	30.80	33.62	6.98	1.82	3.91	0.81	6.54	10.76
95th-Percentile Queue Length [ft/ln]	188.13	449.36	447.66	296.21	770.08	840.51	174.44	45.44	97.67	20.23	163.39	268.90

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	68.63	29.86	29.88	56.56	41.13	46.02	62.51	34.97	36.71	72.04	45.28	57.35
Movement LOS	E	C	C	E	D	D	E	C	D	E	D	E
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	33.93			43.77			51.12			53.27		
Approach LOS	C			D			D			D		
d_I, Intersection Delay [s/veh]	42.46											
Intersection LOS	D											
Intersection V/C	0.796											

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**Option 3: OY 2 EB Left**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	15	745	32	92	811	23	52	34	22	30	37	49
Total Analysis Volume [veh/h]	165	930	27	102	1106	243	116	46	48	34	70	54

**Intersection Settings**

Cycle Length [s]	75											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	19	0	30	36	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.12	0.56	0.56	0.08	0.53	0.53	0.19	0.19	0.19	0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.10	0.27	0.27	0.06	0.39	0.40	0.09	0.03	0.03	0.06	0.04	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1772	1754	1593	1772	1663	1330	1800	1530	1663	1506	1506
c, Capacity [veh/h]	194	1001	991	129	932	875	244	349	297	386	292	292
X, volume / capacity	0.85	0.48	0.48	0.79	0.74	0.75	0.48	0.13	0.16	0.27	0.18	0.18
d, Delay for Lane Group [s/veh]	42.12	11.40	11.41	44.03	19.12	19.89	33.90	25.17	25.41	26.23	25.57	25.57
Lane Group LOS	D	B	B	D	B	B	C	C	C	C	C	C



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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	3.37	4.55	4.51	2.14	9.31	9.08	2.08	0.67	0.71	1.57	0.80
50th-Percentile Queue Length [ft/ln]	84.18	113.71	112.74	53.46	232.73	227.02	52.05	16.80	17.73	39.32	20.06
95th-Percentile Queue Length [veh/ln]	6.06	8.05	7.99	3.85	14.31	14.02	3.75	1.21	1.28	2.83	1.44
95th-Percentile Queue Length [ft/ln]	151.53	201.16	199.80	96.22	357.83	350.57	93.70	30.25	31.91	70.78	36.11

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	42.12	11.40	11.41	44.03	19.41	19.89	33.90	25.17	25.41	26.23	26.23	25.57
Movement LOS	D	B	B	D	B	B	C	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	15.92			21.22			30.05			26.00		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	20.09											
Intersection LOS	C											
Intersection V/C	0.585											

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**Option 3: OY 2 2nd SB Left**

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	41	267	353	466	380	26	28	65	26	211	99	481
Total Analysis Volume [veh/h]	48	505	494	638	535	23	33	75	31	268	115	574

**Intersection Settings**

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	24	0	20	34	0	0	19	0	0	22	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.04	0.33	0.33	0.19	0.48	0.48	0.08	0.08	0.21
(v / s)_i Volume / Saturation Flow Rate	0.03	0.14	0.31	0.18	0.15	0.01	0.02	0.06	0.21
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1781	3560	1589	3514	3560	1615	1810	1807	1836
c, Capacity [veh/h]	74	1178	526	662	1702	772	146	146	389
X, volume / capacity	0.65	0.43	0.94	0.96	0.31	0.03	0.23	0.72	0.98
d, Delay for Lane Group [s/veh]	49.57	23.36	54.36	44.01	14.14	11.84	37.42	44.87	55.22
Lane Group LOS	D	C	D	D	B	B	D	D	E

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.17	3.99	13.16	7.25	3.08	0.24	0.67	2.39	9.97
50th-Percentile Queue Length [ft/ln]	29.18	99.69	329.00	181.23	77.05	5.88	16.63	59.83	249.35
95th-Percentile Queue Length [veh/ln]	2.10	7.18	19.11	11.66	5.55	0.42	1.20	4.31	15.15
95th-Percentile Queue Length [ft/ln]	52.53	179.44	477.73	291.62	138.69	10.59	29.93	107.69	378.83

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.57	23.36	54.36	44.01	14.14	11.84	37.42	44.87	44.87	55.22	55.22	0.00
Movement LOS	D	C	D	D	B	B	D	D	D	E	E	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	39.18			30.03			43.10			55.22		
Approach LOS	D			C			D			E		
d_I, Intersection Delay [s/veh]	37.64											
Intersection LOS	D											
Intersection V/C	0.760											

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Option 3: OY 2 2nd WB Left

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	57	773	203	30	630	0	4	30	82	101	17	21
Total Analysis Volume [veh/h]	86	1218	167	33	820	0	4	33	68	111	18	23

Intersection Settings

Cycle Length [s]	125											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	57	67	0	9	19	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.74	0.74	0.03	0.70	0.70	0.06	0.06	0.05	0.05	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.65	0.10	0.02	0.44	0.00	0.02	0.04	0.03	0.02	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1890	1615	3514	1729	
c, Capacity [veh/h]	111	1378	1190	49	1315	1118	109	94	174	86	
X, volume / capacity	0.77	0.88	0.14	0.67	0.62	0.00	0.34	0.73	0.64	0.48	
d, Delay for Lane Group [s/veh]	68.71	20.98	5.08	74.70	12.05	0.00	58.39	68.12	62.14	61.93	
Lane Group LOS	E	C	A	E	B	A	E	E	E	E	

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Critical Lane Group	No	Yes	No	Yes	NO	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	3.02	25.07	1.24	1.24	11.64	0.00	1.18	2.38	1.82	1.36
50th-Percentile Queue Length [ft/ln]	75.47	626.67	31.09	30.93	290.93	0.00	29.52	59.58	45.48	34.06
95th-Percentile Queue Length [veh/ln]	5.43	33.28	2.24	2.23	17.23	0.00	2.13	4.29	3.27	2.45
95th-Percentile Queue Length [ft/ln]	135.84	831.94	55.96	55.67	430.79	0.00	53.13	107.24	81.86	61.31

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	68.71	20.98	5.08	74.70	12.05	0.00	58.39	58.39	68.12	62.14	61.93	61.93
Movement LOS	E	C	A	E	B	A	E	E	E	E	E	E
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	21.96			14.47			64.69			62.08		
Approach LOS	C			B			E			E		
d_I, Intersection Delay [s/veh]	23.59											
Intersection LOS	C											
Intersection V/C	0.744											

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## Bloomington Business Park Specific Plan

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Scenario 10 OY PM + P

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7/12/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.708	35.7	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.717	39.9	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.394	3.8	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.520	24.6	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	WB Thru	0.734	19.0	C
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	1.573	166.6	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	2.403	841.4	F
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.178	22.4	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.312	25.5	D
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	1.210	75.0	F
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	1.056	75.9	E
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	NB Thru	0.883	57.6	E
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.721	23.7	C
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.945	91.3	F
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.796	52.2	D
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	40.448	276.0	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	NB Left	0.493	9.7	A
			HCM 6th				



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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	NB Left	0.740	29.8	C
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	WB Left	0.987	55.8	E
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	SB Left	1.079	112.4	F
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	SB Left	0.978	37.1	D
22	Market St/24th St	Signalized	HCM 6th Edition	SB Thru	0.949	85.2	F
23	Market St/Rivera St	Signalized	HCM 6th Edition	NB Left	0.507	15.3	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.608	12.6	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.883	55.9	E
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.019	8.8	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	NB Thru	0.089	9.5	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.013	9.4	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.031	11.7	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.065	12.6	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.373	6.7	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.063	18.4	C
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.020	9.2	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.019	8.9	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.039	9.1	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.050	15.0	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.037	8.9	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.030	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	35.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	475	1171	571	592	946	882	976	0	525	479	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	162	83	44	0	33	0	0	0	66	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	157	0	0	225	0	0	151	0	0	154
Total Hourly Volume [veh/h]	647	1277	469	604	998	675	996	0	451	505	0	463
Peak Hour Factor	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	1.0000	0.9910	0.9910	1.0000	0.9910
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	163	322	118	152	252	170	251	0	114	127	0	117
Total Analysis Volume [veh/h]	653	1289	473	609	1007	681	1005	0	455	510	0	467
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	42	22	40	35	35
g / C, Green / Cycle	0.21	0.38	0.20	0.37	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.19	0.25	0.17	0.19	0.29	0.15
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	728	1963	688	1905	1109	1109
d1, Uniform Delay [s]	42.42	28.18	42.97	27.23	36.05	30.11
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.27	1.73	4.02	1.05	3.16	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.90	0.66	0.88	0.53	0.91	0.46
d, Delay for Lane Group [s/veh]	46.69	29.91	46.99	28.29	39.21	30.41
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.80	9.25	8.28	6.94	12.04	4.94
50th-Percentile Queue Length [ft/ln]	220.06	231.37	207.09	173.39	300.95	123.55
95th-Percentile Queue Length [veh/ln]	13.67	14.24	13.00	11.25	17.73	8.59
95th-Percentile Queue Length [ft/ln]	341.71	356.10	325.09	281.36	443.20	214.69

**Movement, Approach, & Intersection Results**

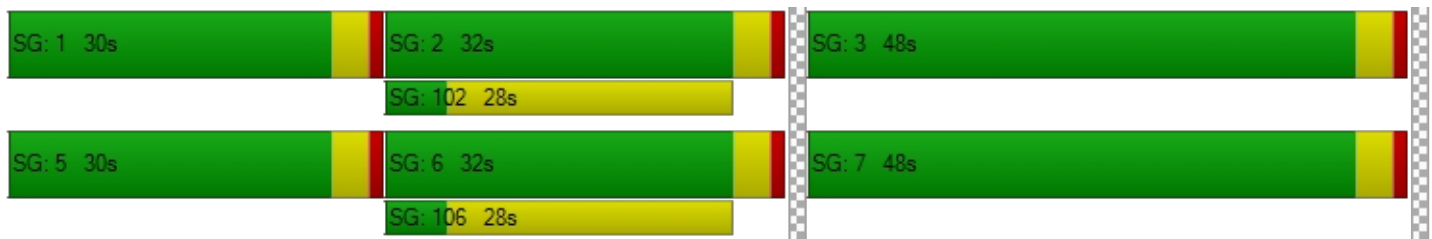
d_M, Delay for Movement [s/veh]	46.69	29.91	0.00	46.99	28.29	0.00	39.21	0.00	0.00	30.41	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	35.55			35.33			39.21			30.41		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	35.69											
Intersection LOS	D											
Intersection V/C	0.708											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	46.34	46.34
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	3.048	2.858
Crosswalk LOS	F	F	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	509	509	800	800
d_b, Bicycle Delay [s]	30.53	30.53	19.77	19.77
I_b,int, Bicycle LOS Score for Intersection	2.628	2.448	1.560	1.560
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	39.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.717

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	166	1262	183	675	1117	134	308	523	80	181	307	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	173	3	37	73	4	12	15	1	6	26	104
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	48	0	0	35	0	0	21	0	0	206
Total Hourly Volume [veh/h]	171	1460	142	726	1212	106	326	548	62	191	339	619
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	376	37	187	312	27	84	141	16	49	87	160
Total Analysis Volume [veh/h]	176	1505	146	748	1249	109	336	565	64	197	349	638
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	22	40	0	32	50	0	18	40	0	18	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	53	53	28	73	73	14	23	23	9	19	51
g / C, Green / Cycle	0.07	0.41	0.41	0.22	0.56	0.56	0.11	0.18	0.18	0.07	0.14	0.39
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.24	0.21	0.25	0.25	0.10	0.16	0.04	0.06	0.10	0.22
s, saturation flow rate [veh/h]	3514	5176	1791	3514	3618	1823	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	236	2127	736	757	2023	1019	380	644	288	255	516	1111
d1, Uniform Delay [s]	59.55	29.57	29.57	50.84	16.83	16.87	57.18	52.04	45.72	59.25	52.91	31.28
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.64	1.15	3.28	12.69	0.71	1.43	6.90	4.00	0.39	4.96	1.56	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.58	0.58	0.99	0.45	0.45	0.88	0.88	0.22	0.77	0.68	0.57
d, Delay for Lane Group [s/veh]	64.19	30.72	32.85	63.53	17.54	18.30	64.08	56.04	46.11	64.21	54.47	31.75
Lane Group LOS	E	C	C	E	B	B	E	E	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.92	9.59	10.39	13.21	7.73	8.08	5.69	9.10	1.77	3.28	5.36	7.58
50th-Percentile Queue Length [ft/ln]	73.06	239.68	259.82	330.28	193.33	201.98	142.16	227.54	44.28	81.90	134.02	189.56
95th-Percentile Queue Length [veh/ln]	5.26	14.66	15.68	19.17	12.29	12.74	9.60	14.05	3.19	5.90	9.16	12.10
95th-Percentile Queue Length [ft/ln]	131.51	366.62	391.99	479.30	307.35	318.52	239.94	351.24	79.71	147.42	228.94	302.45

**Movement, Approach, & Intersection Results**

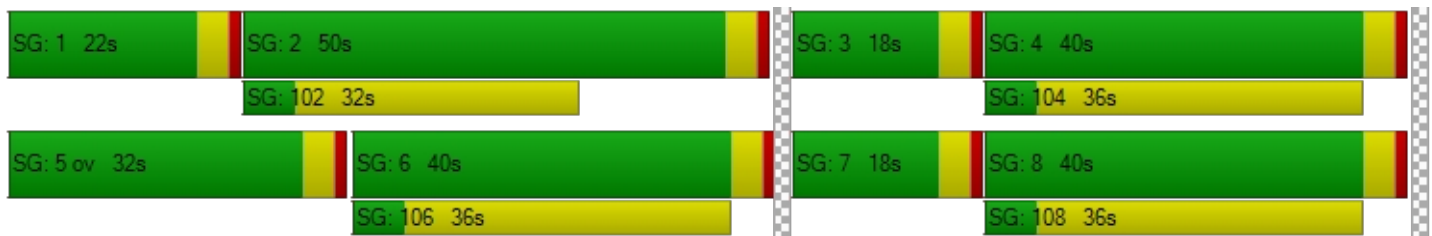
d_M, Delay for Movement [s/veh]	64.19	31.11	32.85	63.53	17.75	18.30	64.08	56.04	46.11	64.21	54.47	31.75
Movement LOS	E	C	C	E	B	B	E	E	D	E	D	C
d_A, Approach Delay [s/veh]	34.44			34.04			58.18			43.85		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	39.90											
Intersection LOS	D											
Intersection V/C	0.717											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.551	3.615	3.077	3.684
Crosswalk LOS	D	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	708	554	554
d_b, Bicycle Delay [s]	33.99	27.14	33.99	33.99
I_b,int, Bicycle LOS Score for Intersection	2.333	2.737	2.373	2.706
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	3.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1569	13	48	1343	9	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	179	0	0	80	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	3	0	0	0	13
Total Hourly Volume [veh/h]	1779	10	49	1450	9	39
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	459	3	13	374	2	10
Total Analysis Volume [veh/h]	1834	10	51	1495	9	40
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	9	58	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	76	76	4	83	4	4
g / C, Green / Cycle	0.80	0.80	0.04	0.88	0.04	0.04
(v / s)_i Volume / Saturation Flow Rate	0.35	0.01	0.01	0.29	0.00	0.02
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4117	1285	139	4539	70	63
d1, Uniform Delay [s]	3.08	2.00	44.47	1.01	44.12	45.01
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.01	1.62	0.19	0.82	10.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.01	0.37	0.33	0.13	0.64
d, Delay for Lane Group [s/veh]	3.43	2.01	46.09	1.20	44.93	55.36
Lane Group LOS	A	A	D	A	D	E
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.64	0.02	0.61	0.33	0.22	1.10
50th-Percentile Queue Length [ft/ln]	40.99	0.50	15.32	8.23	5.48	27.56
95th-Percentile Queue Length [veh/ln]	2.95	0.04	1.10	0.59	0.39	1.98
95th-Percentile Queue Length [ft/ln]	73.79	0.90	27.57	14.82	9.87	49.61



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.43	2.01	46.09	1.20	44.93	55.36
Movement LOS	A	A	D	A	D	E
d_A, Approach Delay [s/veh]	3.42		2.69		53.45	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.80					
Intersection LOS	A					
Intersection V/C	0.394					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	38.93	38.93
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.148	2.184
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	947	1137	695
d_b, Bicycle Delay [s]	13.16	8.85	20.23
I_b,int, Bicycle LOS Score for Intersection	2.575	2.410	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ← ←			← ← ←			← ←			← ←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	163	1298	43	104	1127	97	155	135	124	99	118	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	0	53	19	8	22	21	0	0	15	120
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	27	0	0	0	0	0	55
Total Hourly Volume [veh/h]	166	1360	44	159	1169	80	180	159	126	101	135	165
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	343	11	40	295	20	45	40	32	26	34	42
Total Analysis Volume [veh/h]	168	1374	44	161	1181	81	182	161	127	102	136	167
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	34	0	9	32	0	16	40	0	12	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	50	50	5	49	49	11	17	17	7	12	12
g / C, Green / Cycle	0.07	0.53	0.53	0.05	0.51	0.51	0.12	0.18	0.18	0.07	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.03	0.05	0.24	0.24	0.10	0.04	0.08	0.06	0.04	0.10
s, saturation flow rate [veh/h]	3459	5094	1589	3514	3560	1809	1810	3618	1589	1781	3618	1615
c, Capacity [veh/h]	239	2694	841	188	1827	929	217	637	280	131	469	209
d1, Uniform Delay [s]	43.33	14.47	10.86	44.67	14.74	14.74	40.97	33.81	35.11	43.33	37.46	40.21
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.74	0.69	0.12	10.51	0.83	1.63	8.34	0.21	1.15	9.58	0.34	6.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.51	0.05	0.86	0.46	0.46	0.84	0.25	0.45	0.78	0.29	0.80
d, Delay for Lane Group [s/veh]	47.07	15.16	10.98	55.18	15.57	16.36	49.31	34.02	36.26	52.91	37.80	47.06
Lane Group LOS	D	B	B	E	B	B	D	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.04	6.15	0.46	2.14	5.64	5.94	4.63	1.61	2.70	2.69	1.44	4.15
50th-Percentile Queue Length [ft/ln]	51.03	153.68	11.47	53.53	141.11	148.55	115.63	40.24	67.42	67.14	36.09	103.63
95th-Percentile Queue Length [veh/ln]	3.67	10.21	0.83	3.85	9.54	9.94	8.15	2.90	4.85	4.83	2.60	7.46
95th-Percentile Queue Length [ft/ln]	91.86	255.34	20.64	96.36	238.52	248.49	203.81	72.43	121.35	120.85	64.96	186.53

**Movement, Approach, & Intersection Results**

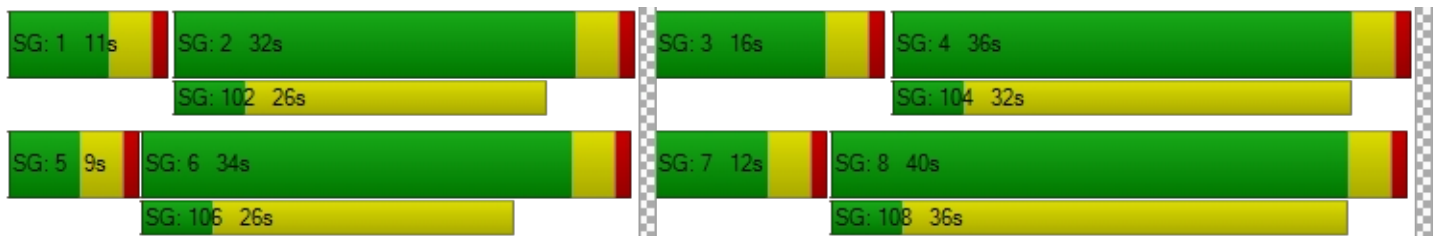
d_M, Delay for Movement [s/veh]	47.07	15.16	10.98	55.18	15.80	16.36	49.31	34.02	36.26	52.91	37.80	47.06
Movement LOS	D	B	B	E	B	B	D	C	D	D	D	D
d_A, Approach Delay [s/veh]	18.42			20.29			40.55			45.42		
Approach LOS	B			C			D			D		
d_I, Intersection Delay [s/veh]	24.60											
Intersection LOS	C											
Intersection V/C	0.520											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	38.97			38.97			38.97			38.97		
I_p,int, Pedestrian LOS Score for Intersection	3.178			3.161			2.600			2.670		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	631			589			757			673		
d_b, Bicycle Delay [s]	22.27			23.66			18.36			20.92		
I_b,int, Bicycle LOS Score for Intersection	2.432			2.357			1.947			1.939		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	19.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	6	25	7	9	11	360	6	9	305	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	59	0	33	0	0	0	0	75	26	15	145	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	9	39	26	7	9	11	442	32	24	456	17
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	10	7	2	2	3	115	8	6	119	4
Total Analysis Volume [veh/h]	62	9	41	27	7	9	11	460	33	25	475	18
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	563	535	707	707
Degree of Utilization, x	0.20	0.08	0.71	0.73

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.73	0.26	6.02	6.48
95th-Percentile Queue Length [ft]	18.37	6.53	150.60	161.88
Approach Delay [s/veh]	10.97	10.32	19.71	20.79
Approach LOS	B	B	C	C
Intersection Delay [s/veh]	19.01			
Intersection LOS	C			



**Intersection Level Of Service Report**  
**Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	166.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.573

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	72	91	17	0	32	0	0	79	28	7	88	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	173	365	84	17	258	10	8	309	193	47	287	30
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	94	22	4	67	3	2	80	50	12	74	8
Total Analysis Volume [veh/h]	179	378	87	18	267	10	8	320	200	49	297	31
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	644	384	528	403
Degree of Utilization, x	1.57	0.77	1.26	0.94

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	36.03	6.35	22.46	10.39
95th-Percentile Queue Length [ft]	900.71	158.74	561.53	259.77
Approach Delay [s/veh]	291.89	37.55	161.43	60.59
Approach LOS	F	E	F	F
Intersection Delay [s/veh]	166.56			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	841.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.403

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	352	154	59	326	40	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	2.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	113	284	122	52	137	49
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	472	441	182	385	178	96
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	127	119	49	104	48	26
Total Analysis Volume [veh/h]	509	475	196	415	192	103
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.28	0.00	2.40	0.25
d_M, Delay for Movement [s/veh]	0.00	0.00	11.99	0.00	841.42	805.01
Movement LOS	A	A	B	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.12	1.12	27.05	27.05
95th-Percentile Queue Length [ft/ln]	0.00	0.00	28.11	28.11	676.27	676.27
d_A, Approach Delay [s/veh]	0.00		3.85		828.71	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	130.59					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	22.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.178

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	11	8	11	13	16	21	16	269	13	13	249	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	0	0	11	0	3	8	74	15	0	61	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	8	11	24	16	24	24	348	28	13	315	32
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	2	3	6	4	6	6	92	7	3	84	8
Total Analysis Volume [veh/h]	46	8	12	25	17	25	25	369	30	14	334	34
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.18	0.03	0.02	0.09	0.06	0.04	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	22.36	20.65	13.84	20.34	19.39	12.39	8.06	0.00	0.00	8.11	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.84	0.84	0.84	0.67	0.67	0.67	0.06	0.06	0.06	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	20.90	20.90	20.90	16.65	16.65	16.65	1.59	1.59	1.59	0.91	0.91	0.91
d_A, Approach Delay [s/veh]	20.61			17.13			0.48			0.30		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	3.01											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	25.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.312

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	13	8	10	210	93	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	58	0	0	415	176	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	8	10	629	271	33
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	2	3	175	75	9
Total Analysis Volume [veh/h]	79	9	11	700	301	37
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.31	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	25.48	16.21	7.95	0.00	0.00	0.00
Movement LOS	D	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.36	1.36	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	34.02	34.02	0.68	0.68	0.00	0.00
d_A, Approach Delay [s/veh]	24.53		0.12		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.98					
Intersection LOS	D					



**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	75.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.210

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	59	0	0	0	490	0	0	207	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	32	10	98	51	15	30	674	20	8	301	79
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	26	13	4	8	176	5	2	79	21
Total Analysis Volume [veh/h]	14	34	10	103	53	16	31	706	21	8	315	83
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	512	535	737	695	588	665
Degree of Utilization, x	0.11	0.32	1.21	0.03	0.55	0.12

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.38	1.38	26.45	0.09	3.33	0.43
95th-Percentile Queue Length [ft]	9.51	34.48	661.13	2.33	83.16	10.64
Approach Delay [s/veh]	10.92	12.88	126.36		14.58	
Approach LOS	B	B	F		B	
Intersection Delay [s/veh]	75.00					
Intersection LOS	F					

**Intersection Level Of Service Report**  
**Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	75.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.056

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	283	128	0	0	56	0	0	0	0	100	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	163	0	0	0	0	0	144
Total Hourly Volume [veh/h]	620	1503	0	0	1243	487	0	0	0	453	5	433
Peak Hour Factor	0.9320	0.9320	1.0000	1.0000	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	403	0	0	333	131	0	0	0	122	1	116
Total Analysis Volume [veh/h]	665	1613	0	0	1334	523	0	0	0	486	5	465
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	26	55	0	0	29	0	0	0	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	80	80	80	80		80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	22	51	25	25		21	21
g / C, Green / Cycle	0.28	0.64	0.31	0.31		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.41	0.47	0.27	0.34		0.29	0.30
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1715	1530
c, Capacity [veh/h]	446	2184	1531	478		451	402
d1, Uniform Delay [s]	29.05	9.96	26.04	27.57		29.55	29.55
k, delay calibration	0.50	0.50	0.50	0.50		0.28	0.31
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	233.28	2.28	7.08	69.30		58.73	87.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.49	0.74	0.87	1.09		1.09	1.16
d, Delay for Lane Group [s/veh]	262.33	12.24	33.12	96.86		88.28	116.67
Lane Group LOS	F	B	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	37.01	8.59	8.59	17.82		15.62	17.11
50th-Percentile Queue Length [ft/ln]	925.28	214.65	214.65	445.57		390.49	427.63
95th-Percentile Queue Length [veh/ln]	57.22	13.39	13.39	26.16		23.21	25.88
95th-Percentile Queue Length [ft/ln]	1430.58	334.79	334.79	653.97		580.28	647.12

**Movement, Approach, & Intersection Results**

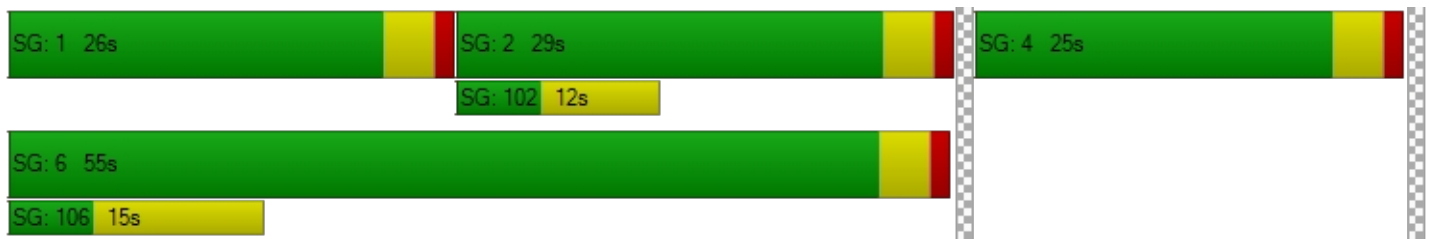
d_M, Delay for Movement [s/veh]	262.33	12.24	0.00	0.00	33.12	96.86	0.00	0.00	0.00	88.28	88.28	116.67
Movement LOS	F	B			C	F				F	F	F
d_A, Approach Delay [s/veh]	85.25		51.07		0.00		102.09					
Approach LOS	F		D		A		F					
d_I, Intersection Delay [s/veh]	75.94											
Intersection LOS	E											
Intersection V/C	1.056											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	31.55	31.55
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.372	2.498
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1274	624	0	524
d_b, Bicycle Delay [s]	5.28	18.95	40.04	21.80
I_b,int, Bicycle LOS Score for Intersection	3.439	2.671	4.132	3.375
Bicycle LOS	C	B	D	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	57.6
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.883

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	↑↑↑			↔↑↑			↔↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	1162	352	397	1083	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	411	250	0	156	0	0	0	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	152	0	0	0	0	0	91	0	0	0
Total Hourly Volume [veh/h]	0	1596	457	405	1261	0	594	2	274	0	0	0
Peak Hour Factor	1.0000	0.9660	0.9660	0.9660	0.9660	1.0000	0.9660	0.9660	0.9660	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	413	118	105	326	0	154	1	71	0	0	0
Total Analysis Volume [veh/h]	0	1652	473	419	1305	0	615	2	284	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	25	0	22	47	0	0	23	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	21	21	18	43	19	19	
g / C, Green / Cycle	0.30	0.30	0.26	0.61	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.34	0.31	0.26	0.38	0.27	0.29	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1596	
c, Capacity [veh/h]	1471	459	417	2106	440	434	
d1, Uniform Delay [s]	24.59	24.59	26.08	8.43	25.58	25.58	
k, delay calibration	0.50	0.50	0.16	0.50	0.19	0.21	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	65.01	50.12	26.20	1.38	27.55	44.74	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.12	1.03	1.00	0.62	1.01	1.06	
d, Delay for Lane Group [s/veh]	89.60	74.71	52.28	9.81	53.13	70.33	
Lane Group LOS	F	F	F	A	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	16.38	13.44	9.54	5.28	10.19	12.12	
50th-Percentile Queue Length [ft/ln]	409.54	335.94	238.51	132.01	254.86	302.93	
95th-Percentile Queue Length [veh/ln]	24.65	19.81	14.65	9.05	15.48	18.41	
95th-Percentile Queue Length [ft/ln]	616.14	495.32	366.13	226.23	387.01	460.24	

**Movement, Approach, & Intersection Results**

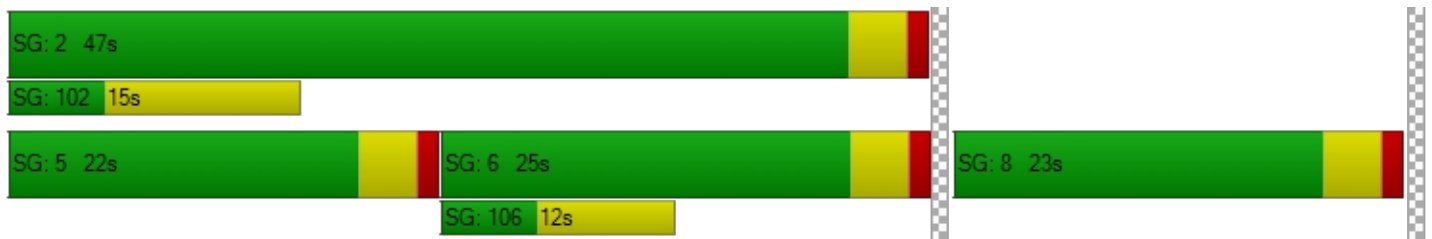
d_M, Delay for Movement [s/veh]	0.00	89.60	74.71	52.28	9.81	0.00	57.85	70.33	70.33	0.00	0.00	0.00
Movement LOS		F	F	F	A		E	E	E			
d_A, Approach Delay [s/veh]		86.29		20.14			61.89			0.00		
Approach LOS		F		C			E			A		
d_I, Intersection Delay [s/veh]	57.65											
Intersection LOS	E											
Intersection V/C	0.883											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		0.00		26.64		26.64
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.381		2.214
Crosswalk LOS	F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	599		1226		542		0
d_b, Bicycle Delay [s]	17.21		5.25		18.64		35.06
I_b,int, Bicycle LOS Score for Intersection	2.812		2.982		3.196		4.132
Bicycle LOS	C		C		C		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.721

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	1316	2	39	1056	233	177	4	16	1	2	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	661	0	0	279	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	30
Total Hourly Volume [veh/h]	7	2003	1	40	1356	238	181	4	16	1	2	90
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	512	0	10	347	61	46	1	4	0	1	23
Total Analysis Volume [veh/h]	7	2048	1	41	1387	243	185	4	16	1	2	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	33	40	0	0	36	0	0	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	52	52	59	55	55	18	18	18
g / C, Green / Cycle	0.70	0.62	0.62	0.70	0.64	0.64	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.57	0.57	0.12	0.40	0.16	0.14	0.01	0.06
s, saturation flow rate [veh/h]	447	1800	1800	332	3427	1506	1302	1552	1470
c, Capacity [veh/h]	323	1082	1082	235	2155	947	277	343	368
d1, Uniform Delay [s]	7.38	15.68	15.68	19.82	9.84	6.98	32.11	26.13	27.52
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	17.18	17.20	1.61	1.49	0.65	2.78	0.07	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.02	0.95	0.95	0.17	0.64	0.26	0.67	0.06	0.26
d, Delay for Lane Group [s/veh]	7.41	32.86	32.89	21.44	11.33	7.64	34.88	26.20	27.89
Lane Group LOS	A	C	C	C	B	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.03	19.88	19.89	0.28	6.90	1.78	3.79	0.33	1.64
50th-Percentile Queue Length [ft/ln]	0.80	497.07	497.32	7.07	172.52	44.44	94.72	8.19	41.10
95th-Percentile Queue Length [veh/ln]	0.06	27.20	27.21	0.51	11.21	3.20	6.82	0.59	2.96
95th-Percentile Queue Length [ft/ln]	1.44	679.88	680.19	12.72	280.22	79.98	170.50	14.75	73.98



**Movement, Approach, & Intersection Results**

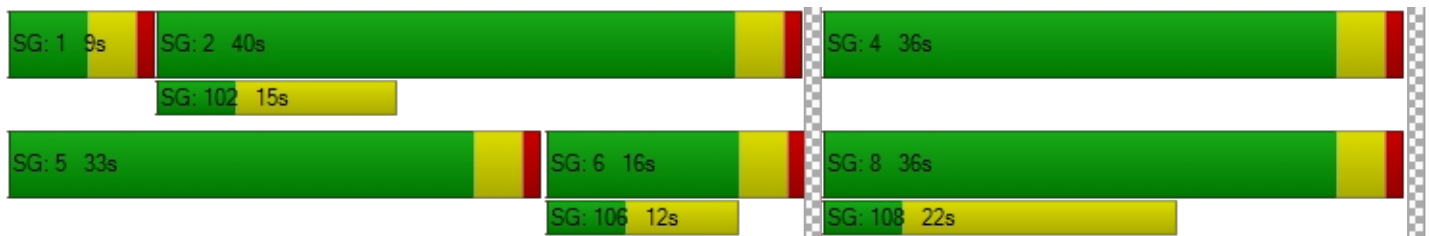
d_M, Delay for Movement [s/veh]	7.41	32.87	32.89	21.44	11.33	7.64	34.88	26.20	26.20	27.89	27.89	27.89
Movement LOS	A	C	C	C	B	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	32.78			11.04			34.04			27.89		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	23.71											
Intersection LOS	C											
Intersection V/C	0.721											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.98	0.00	33.98	33.98
I_p,int, Pedestrian LOS Score for Intersection	2.976	0.000	2.094	1.877
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	282	847	753	753
d_b, Bicycle Delay [s]	31.35	14.12	16.52	16.52
I_b,int, Bicycle LOS Score for Intersection	3.257	2.938	1.898	1.766
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	91.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.945

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	491	1	9	212	59	154	11	19	3	10	22
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	1402	28	156	1029	169	432	324	145	29	174	194
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	367	7	41	269	44	113	85	38	8	46	51
Total Analysis Volume [veh/h]	124	1468	29	163	1077	177	452	339	152	30	182	203
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	13	33	0	27	45	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	36	36	9	39	39	23	36	36	3	16	16
g / C, Green / Cycle	0.06	0.36	0.36	0.09	0.39	0.39	0.23	0.36	0.36	0.03	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.42	0.42	0.10	0.36	0.36	0.28	0.10	0.10	0.02	0.10	0.13
s, saturation flow rate [veh/h]	1593	1772	1760	1593	1772	1686	1593	3373	1506	1593	1772	1506
c, Capacity [veh/h]	97	638	634	145	691	657	366	1214	542	47	283	240
d1, Uniform Delay [s]	47.02	32.04	32.04	45.53	29.16	29.33	38.56	22.80	22.81	48.07	39.42	40.89
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.41	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	141.75	94.74	96.25	75.62	20.20	22.32	123.32	0.12	0.28	13.53	2.45	7.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.28	1.18	1.18	1.13	0.93	0.93	1.23	0.28	0.28	0.64	0.64	0.85
d, Delay for Lane Group [s/veh]	188.77	126.78	128.28	121.15	49.36	51.65	161.88	22.93	23.09	61.60	41.88	48.83
Lane Group LOS	F	F	F	F	D	D	F	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.22	31.63	31.68	6.60	17.94	17.67	21.36	2.83	2.56	0.91	4.35	5.34
50th-Percentile Queue Length [ft/ln]	155.42	790.73	791.99	164.90	448.42	441.78	534.12	70.72	64.03	22.84	108.73	133.45
95th-Percentile Queue Length [veh/ln]	11.02	45.37	45.51	11.26	24.88	24.57	32.26	5.09	4.61	1.64	7.77	9.13
95th-Percentile Queue Length [ft/ln]	275.42	1134.28	1137.81	281.57	622.07	614.13	806.55	127.30	115.26	41.12	194.23	228.17

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	188.77	127.51	128.28	121.15	50.29	51.65	161.88	22.93	23.09	61.60	41.88	48.83
Movement LOS	F	F	F	F	D	D	F	C	C	E	D	D
d_A, Approach Delay [s/veh]	132.21			58.61			89.56			46.70		
Approach LOS	F			E			F			D		
d_I, Intersection Delay [s/veh]	91.27											
Intersection LOS	F											
Intersection V/C	0.945											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.44	41.44	41.44	41.44
I_p,int, Pedestrian LOS Score for Intersection	2.868	3.035	2.799	2.613
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	580	819	520
d_b, Bicycle Delay [s]	27.41	25.24	17.43	27.41
I_b,int, Bicycle LOS Score for Intersection	2.897	2.729	2.338	1.902
Bicycle LOS	C	B	B	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	52.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.796

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	110	927	32	76	759	47	75	135	93	26	112	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	48	484	0	0	217	22	50	3	33	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	1430	33	78	991	70	127	141	128	27	115	57
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	394	9	21	273	19	35	39	35	7	32	16
Total Analysis Volume [veh/h]	176	1575	36	86	1091	77	140	155	141	30	127	63
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	18	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	25	25	4	23	23	19	19
g / C, Green / Cycle	0.10	0.42	0.42	0.07	0.39	0.39	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.11	0.46	0.46	0.05	0.33	0.33	0.28	0.13
s, saturation flow rate [veh/h]	1593	1772	1758	1593	1772	1731	1534	1648
c, Capacity [veh/h]	161	742	736	110	685	670	558	583
d1, Uniform Delay [s]	27.04	17.48	17.48	27.55	16.96	16.98	19.64	16.32
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.13	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	60.32	59.09	61.32	11.19	13.41	13.82	3.01	0.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.09	1.09	1.09	0.78	0.86	0.86	0.78	0.38
d, Delay for Lane Group [s/veh]	87.36	76.57	78.80	38.73	30.37	30.79	22.65	16.72
Lane Group LOS	F	F	F	D	C	C	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.88	20.87	21.16	1.49	9.05	8.94	5.66	2.12
50th-Percentile Queue Length [ft/ln]	122.05	521.64	528.95	37.36	226.32	223.46	141.55	52.99
95th-Percentile Queue Length [veh/ln]	8.76	30.04	30.52	2.69	13.99	13.84	9.56	3.82
95th-Percentile Queue Length [ft/ln]	219.04	751.06	762.94	67.25	349.68	346.03	239.11	95.38

**Movement, Approach, & Intersection Results**

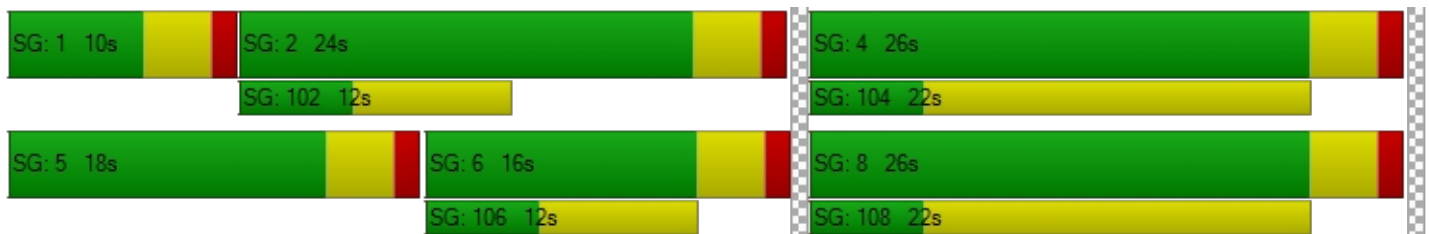
d_M, Delay for Movement [s/veh]	87.36	77.66	78.80	38.73	30.56	30.79	22.65	22.65	22.65	16.72	16.72	16.72
Movement LOS	F	F	E	D	C	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	78.63			31.14			22.65			16.72		
Approach LOS	E			C			C			B		
d_I, Intersection Delay [s/veh]	52.24											
Intersection LOS	D											
Intersection V/C	0.796											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.918	3.071	2.093	2.019
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	399	666	732	732
d_b, Bicycle Delay [s]	19.24	13.37	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	3.034	2.594	2.279	1.923
Bicycle LOS	C	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	276.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	40.448

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	92	239	0	0	127	124	295	40	215	0	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	0	0	0	66	0	0	0
Total Hourly Volume [veh/h]	151	1155	28	103	921	172	335	131	196	46	67	78
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	306	7	27	244	46	89	35	52	12	18	21
Total Analysis Volume [veh/h]	160	1224	30	109	976	182	355	139	208	49	71	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	25	0	9	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	21	21	5	21	21	22	22	22	22
g / C, Green / Cycle	0.08	0.35	0.35	0.08	0.35	0.35	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.10	0.36	0.36	0.07	0.34	0.34	40.01	0.14	0.50	0.06
s, saturation flow rate [veh/h]	1619	1772	1757	1593	1772	1676	12	1530	240	1506
c, Capacity [veh/h]	139	619	614	137	619	585	107	560	172	551
d1, Uniform Delay [s]	27.57	19.63	19.63	27.04	19.21	19.26	30.16	14.05	16.05	12.84
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.46	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	83.62	40.45	41.07	9.89	27.46	29.33	1647.37	0.41	19.38	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.15	1.02	1.02	0.79	0.96	0.96	4.61	0.37	0.70	0.15
d, Delay for Lane Group [s/veh]	111.19	60.08	60.70	36.93	46.67	48.59	1677.53	14.46	35.43	12.97
Lane Group LOS	F	F	F	D	D	D	F	B	D	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	5.13	14.54	14.53	1.83	11.85	11.56	50.48	1.92	1.92	0.70
50th-Percentile Queue Length [ft/ln]	128.31	363.60	363.20	45.73	296.18	289.10	1261.92	47.99	47.89	17.41
95th-Percentile Queue Length [veh/ln]	9.24	21.03	21.03	3.29	17.49	17.14	86.59	3.45	3.45	1.25
95th-Percentile Queue Length [ft/ln]	230.95	525.68	525.78	82.31	437.30	428.52	2164.79	86.37	86.20	31.33

**Movement, Approach, & Intersection Results**

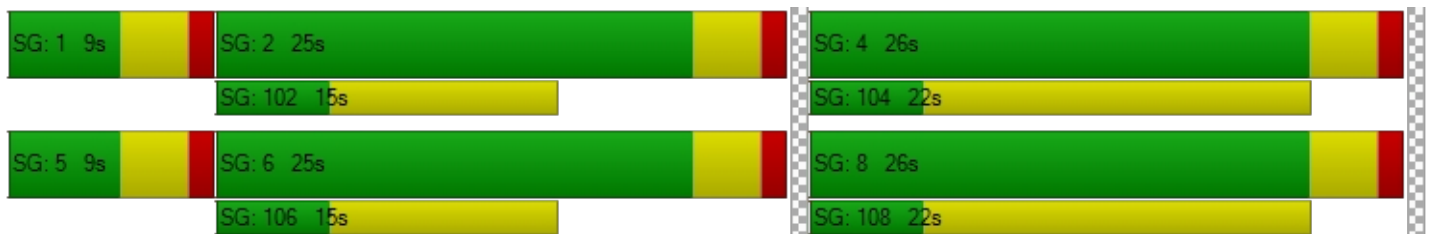
d_M, Delay for Movement [s/veh]	111.19	60.38	60.70	36.93	47.42	48.59	1677.53	1677.53	14.46	35.43	35.43	12.97
Movement LOS	F	E	E	D	D	D	F	F	B	D	D	B
d_A, Approach Delay [s/veh]	66.13			46.68			1184.77			26.24		
Approach LOS	E			D			F			C		
d_I, Intersection Delay [s/veh]	275.99											
Intersection LOS	F											
Intersection V/C	40.448											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.76	21.76	21.76	21.76
I_p,int, Pedestrian LOS Score for Intersection	2.896	3.357	2.399	2.081
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	698	698	731	731
d_b, Bicycle Delay [s]	12.75	12.75	12.10	12.10
I_b,int, Bicycle LOS Score for Intersection	2.734	2.605	2.827	1.895
Bicycle LOS	B	B	C	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.493

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	51	941	9	39	767	27	63	23	33	18	21	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	331	0	0	340	2	1	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	8	0	0	9	0	0	4
Total Hourly Volume [veh/h]	52	1291	7	40	1122	22	65	23	25	18	21	11
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	350	2	11	305	6	18	6	7	5	6	3
Total Analysis Volume [veh/h]	56	1402	8	43	1218	24	71	25	27	20	23	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	40	3	39	39	6	6
g / C, Green / Cycle	0.05	0.66	0.66	0.04	0.65	0.65	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.39	0.39	0.03	0.35	0.35	0.07	0.03
s, saturation flow rate [veh/h]	1619	1800	1796	1619	1800	1788	1648	1753
c, Capacity [veh/h]	84	1190	1188	71	1176	1168	252	249
d1, Uniform Delay [s]	27.98	5.68	5.68	28.22	5.53	5.53	26.45	25.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.87	2.18	2.18	8.09	1.71	1.73	1.47	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.67	0.59	0.59	0.61	0.53	0.53	0.49	0.22
d, Delay for Lane Group [s/veh]	36.85	7.85	7.86	36.31	7.24	7.25	27.92	25.83
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.96	3.90	3.90	0.74	3.30	3.28	1.72	0.72
50th-Percentile Queue Length [ft/ln]	23.92	97.52	97.45	18.42	82.41	82.04	42.99	18.12
95th-Percentile Queue Length [veh/ln]	1.72	7.02	7.02	1.33	5.93	5.91	3.10	1.30
95th-Percentile Queue Length [ft/ln]	43.06	175.54	175.42	33.16	148.33	147.66	77.38	32.62

**Movement, Approach, & Intersection Results**

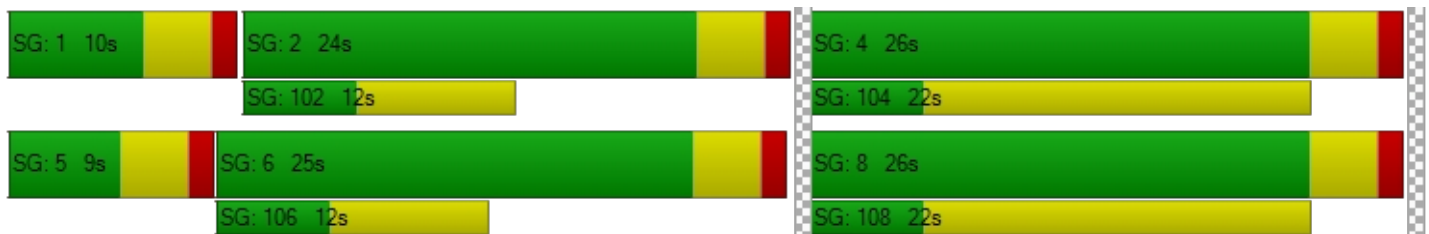
d_M, Delay for Movement [s/veh]	36.85	7.86	7.86	36.31	7.25	7.25	27.92	27.92	27.92	25.83	25.83	25.83
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.96			8.22			27.92			25.83		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.75											
Intersection LOS	A											
Intersection V/C	0.493											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.847			2.935			1.827			1.768		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			666			733			733		
d_b, Bicycle Delay [s]	12.69			13.35			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.771			2.626			1.777			1.657		
Bicycle LOS	C			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.740

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	105	845	14	52	766	14	45	21	284	29	10	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	322	2	2	318	20	8	0	50	2	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	0	0	0	0	0	0	5
Total Hourly Volume [veh/h]	152	1184	12	55	1099	34	54	21	340	32	10	13
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	319	3	15	296	9	15	6	92	9	3	4
Total Analysis Volume [veh/h]	164	1277	13	59	1186	37	58	23	367	35	11	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	29	0	10	28	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	29	29	3	25	25	21	21
g / C, Green / Cycle	0.11	0.44	0.44	0.05	0.39	0.39	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.10	0.36	0.36	0.04	0.34	0.34	0.30	0.08
s, saturation flow rate [veh/h]	1593	1800	1794	1619	1800	1781	1515	728
c, Capacity [veh/h]	173	797	794	85	695	688	549	321
d1, Uniform Delay [s]	28.84	15.78	15.79	30.36	18.63	18.64	21.26	15.59
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.19	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.00	8.77	8.83	9.83	15.27	15.49	5.17	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.95	0.81	0.81	0.70	0.88	0.88	0.82	0.19
d, Delay for Lane Group [s/veh]	49.84	24.55	24.62	40.18	33.90	34.14	26.42	15.87
Lane Group LOS	D	C	C	D	C	C	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.43	9.16	9.15	1.10	10.59	10.53	6.76	0.61
50th-Percentile Queue Length [ft/ln]	85.78	228.95	228.72	27.61	264.77	263.35	168.92	15.24
95th-Percentile Queue Length [veh/ln]	6.18	14.12	14.11	1.99	15.93	15.86	11.02	1.10
95th-Percentile Queue Length [ft/ln]	154.40	353.02	352.74	49.70	398.20	396.42	275.49	27.44

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.84	24.58	24.62	40.18	34.01	34.14	26.42	26.42	26.42	15.87	15.87	15.87
Movement LOS	D	C	C	D	C	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	27.43			34.30			26.42			15.87		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	29.79											
Intersection LOS	C											
Intersection V/C	0.740											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.16	24.16	24.16	24.16
I_p,int, Pedestrian LOS Score for Intersection	2.934	2.881	2.022	1.787
Crosswalk LOS	C	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	768	738	676	676
d_b, Bicycle Delay [s]	12.34	12.96	14.26	14.26
I_b,int, Bicycle LOS Score for Intersection	2.762	2.617	2.299	1.667
Bicycle LOS	C	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	55.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.987

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	822	124	153	826	9	13	7	5	219	9	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	171	64	86	284	0	0	0	0	182	0	197
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	48	0	0	2	0	0	1	0	0	96
Total Hourly Volume [veh/h]	9	1009	142	242	1127	7	13	7	4	405	9	286
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	282	40	68	315	2	4	2	1	113	3	80
Total Analysis Volume [veh/h]	10	1127	159	270	1259	8	15	8	4	453	10	320
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	44	0	15	39	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	40	40	11	50	50	22	22	22
g / C, Green / Cycle	0.01	0.47	0.47	0.13	0.59	0.59	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.01	0.36	0.37	0.17	0.35	0.35	0.21	0.45	0.21
s, saturation flow rate [veh/h]	1619	1800	1723	1619	1800	1796	128	1018	1530
c, Capacity [veh/h]	22	846	810	211	1055	1053	99	347	396
d1, Uniform Delay [s]	41.63	18.81	18.86	37.00	11.24	11.25	26.17	34.18	29.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.16	0.50	0.15
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.51	6.87	7.30	134.37	2.53	2.54	2.11	168.09	5.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.78	0.78	1.28	0.60	0.60	0.27	1.33	0.81
d, Delay for Lane Group [s/veh]	55.14	25.68	26.15	171.36	13.78	13.79	28.29	202.28	34.98
Lane Group LOS	E	C	C	F	B	B	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.29	11.54	11.22	12.15	7.47	7.46	0.46	23.43	6.52
50th-Percentile Queue Length [ft/ln]	7.23	288.56	280.41	303.72	186.72	186.57	11.48	585.74	162.89
95th-Percentile Queue Length [veh/ln]	0.52	17.11	16.71	19.66	11.95	11.94	0.83	36.29	10.70
95th-Percentile Queue Length [ft/ln]	13.01	427.85	417.72	491.60	298.76	298.57	20.66	907.26	267.55

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	55.14	25.88	26.15	171.36	13.78	13.79	28.29	28.29	28.29	202.28	202.28	34.98
Movement LOS	E	C	C	F	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	26.14			41.46			28.29			133.91		
Approach LOS	C			D			C			F		
d_I, Intersection Delay [s/veh]	55.78											
Intersection LOS	E											
Intersection V/C	0.987											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	33.99	33.99	33.99
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.927	1.743	2.519
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	823	517	517
d_b, Bicycle Delay [s]	11.92	14.72	23.36	23.36
I_b,int, Bicycle LOS Score for Intersection	2.668	2.829	1.606	3.010
Bicycle LOS	B	C	A	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	112.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.079

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		



**Volumes**

Name												
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	139	31	281	185	0	0	0	0	70	0	96
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	6	0	0	0	0	0	158
Total Hourly Volume [veh/h]	16	484	435	826	662	17	30	51	15	304	86	474
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	133	120	227	182	5	8	14	4	84	24	131
Total Analysis Volume [veh/h]	18	533	479	910	729	19	33	56	17	335	95	522
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	135
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	70	39	0	55	24	0	0	9	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	135	135	135	135	135	135	135	135	135
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	35	35	51	84	84	5	5	28
g / C, Green / Cycle	0.02	0.26	0.26	0.38	0.62	0.62	0.04	0.04	0.21
(v / s)_i Volume / Saturation Flow Rate	0.01	0.15	0.30	0.50	0.20	0.01	0.02	0.04	0.24
s, saturation flow rate [veh/h]	1781	3560	1589	1810	3560	1615	1810	1825	1829
c, Capacity [veh/h]	33	926	414	682	2203	999	67	68	379
d1, Uniform Delay [s]	65.71	43.45	49.94	42.07	12.35	9.94	63.75	65.00	53.50
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.49
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.60	2.60	95.06	160.47	0.40	0.03	5.48	73.50	87.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.55	0.58	1.16	1.33	0.33	0.02	0.49	1.08	1.13
d, Delay for Lane Group [s/veh]	79.31	46.05	145.00	202.53	12.75	9.97	69.23	138.50	140.95
Lane Group LOS	E	D	F	F	B	A	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.74	8.13	24.83	52.79	5.35	0.23	1.22	3.72	22.06
50th-Percentile Queue Length [ft/ln]	18.52	203.27	620.67	1319.64	133.87	5.73	30.47	92.90	551.47
95th-Percentile Queue Length [veh/ln]	1.33	12.81	35.91	77.32	9.15	0.41	2.19	6.69	31.84
95th-Percentile Queue Length [ft/ln]	33.33	320.18	897.87	1932.89	228.74	10.31	54.85	167.22	796.03

**Movement, Approach, & Intersection Results**

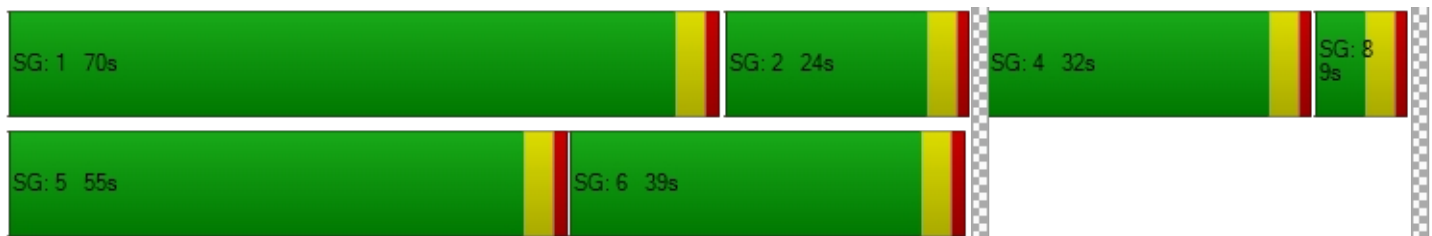
d_M, Delay for Movement [s/veh]	79.31	46.05	145.00	202.53	12.75	9.97	69.23	138.50	138.50	140.95	140.95	0.00
Movement LOS	E	D	F	F	B	A	E	F	F	F	F	
d_A, Approach Delay [s/veh]	92.65			116.88			116.93			140.95		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	112.35											
Intersection LOS	F											
Intersection V/C	1.079											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	519			296			74			415		
d_b, Bicycle Delay [s]	37.04			48.98			62.59			42.40		
I_b,int, Bicycle LOS Score for Intersection	2.409			2.932			1.735			2.269		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	37.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	14	7	181	11	293	339	499	9	8	556	266
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	177	0	71	40	273	0	0	95	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	2	0	0	0
Total Hourly Volume [veh/h]	13	14	7	362	11	370	386	782	7	8	662	341
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	2	96	3	98	103	208	2	2	176	91
Total Analysis Volume [veh/h]	14	15	7	385	12	393	410	831	7	9	704	362
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	24	35	0	10	21	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	26	26	19	36	36	1	18	18
g / C, Green / Cycle	0.35	0.35	0.35	0.25	0.48	0.48	0.01	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.17	0.52	0.25	0.23	0.23	0.00	0.01	0.20	0.23
s, saturation flow rate [veh/h]	218	763	1589	1781	3560	1615	1781	3560	1589
c, Capacity [veh/h]	143	361	555	450	1707	774	21	849	379
d1, Uniform Delay [s]	19.76	27.87	21.13	27.22	13.26	10.21	36.82	27.11	28.17
k, delay calibration	0.50	0.50	0.50	0.14	0.11	0.11	0.11	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.20	77.18	7.47	9.28	0.22	0.00	13.17	2.16	15.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.25	1.10	0.71	0.91	0.49	0.01	0.43	0.83	0.95
d, Delay for Lane Group [s/veh]	23.97	105.05	28.60	36.50	13.48	10.22	49.99	29.27	43.53
Lane Group LOS	C	F	C	D	B	B	D	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.56	14.21	6.74	7.92	4.36	0.06	0.24	5.94	7.69
50th-Percentile Queue Length [ft/ln]	13.99	355.30	168.47	197.97	108.88	1.42	5.93	148.53	192.36
95th-Percentile Queue Length [veh/ln]	1.01	21.63	11.00	12.53	7.78	0.10	0.43	9.94	12.24
95th-Percentile Queue Length [ft/ln]	25.19	540.68	274.90	313.35	194.44	2.56	10.67	248.46	306.08



**Movement, Approach, & Intersection Results**

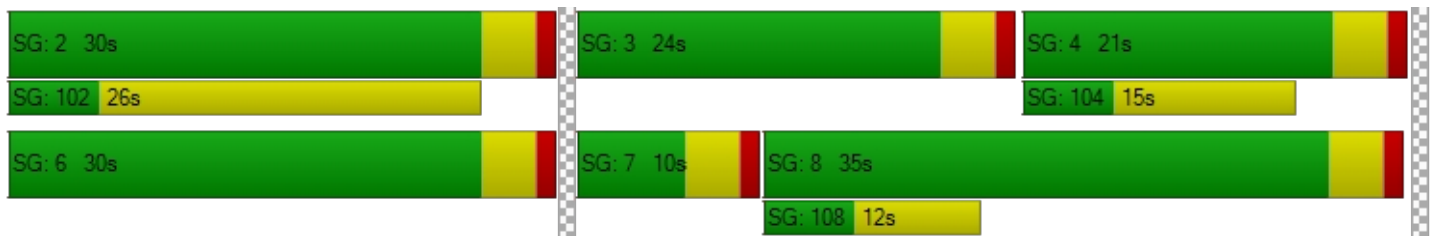
d_M, Delay for Movement [s/veh]	23.97	23.97	23.97	105.05	105.05	28.60	36.50	13.48	10.22	49.99	29.27	43.53
Movement LOS	C	C	C	F	F	C	D	B	B	D	C	D
d_A, Approach Delay [s/veh]	23.97			67.02			21.02			34.25		
Approach LOS	C			E			C			C		
d_I, Intersection Delay [s/veh]	37.11											
Intersection LOS	D											
Intersection V/C	0.978											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.05	29.05	29.05	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.739	2.445	2.852	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	827	453
d_b, Bicycle Delay [s]	16.01	16.01	12.91	22.43
I_b,int, Bicycle LOS Score for Intersection	1.619	2.863	2.591	2.446
Bicycle LOS	A	C	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	85.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	162	0	0	435	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	0	0	0	67	0	0	0
Total Hourly Volume [veh/h]	84	963	63	9	1140	4	7	47	199	288	70	53
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	243	16	2	288	1	2	12	50	73	18	13
Total Analysis Volume [veh/h]	85	974	64	9	1153	4	7	48	201	291	71	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	77	0	9	73	0	0	23	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	79	79	2	72	72	19	19	24	24
g / C, Green / Cycle	0.06	0.56	0.56	0.01	0.51	0.51	0.14	0.14	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.52	0.04	0.01	0.62	0.00	0.03	0.12	0.16	0.07
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1888	1615	1810	1765
c, Capacity [veh/h]	107	1050	907	20	961	817	261	223	316	309
d1, Uniform Delay [s]	65.04	28.08	14.01	68.76	34.02	16.57	53.57	59.40	56.79	51.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.14	0.27	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.61	15.01	0.15	14.63	99.92	0.01	0.40	15.68	21.81	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.93	0.07	0.45	1.20	0.00	0.21	0.90	0.92	0.41
d, Delay for Lane Group [s/veh]	77.66	43.09	14.16	83.39	133.93	16.58	53.97	75.08	78.60	52.15
Lane Group LOS	E	D	B	F	F	B	D	E	E	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.38	33.14	0.98	0.40	58.33	0.07	1.76	8.00	12.04	4.00
50th-Percentile Queue Length [ft/ln]	84.52	828.54	24.52	10.10	1458.34	1.67	44.11	200.09	301.08	100.05
95th-Percentile Queue Length [veh/ln]	6.09	42.58	1.77	0.73	81.27	0.12	3.18	12.64	17.73	7.20
95th-Percentile Queue Length [ft/ln]	152.14	1064.57	44.14	18.17	2031.84	3.00	79.40	316.09	443.36	180.09

**Movement, Approach, & Intersection Results**

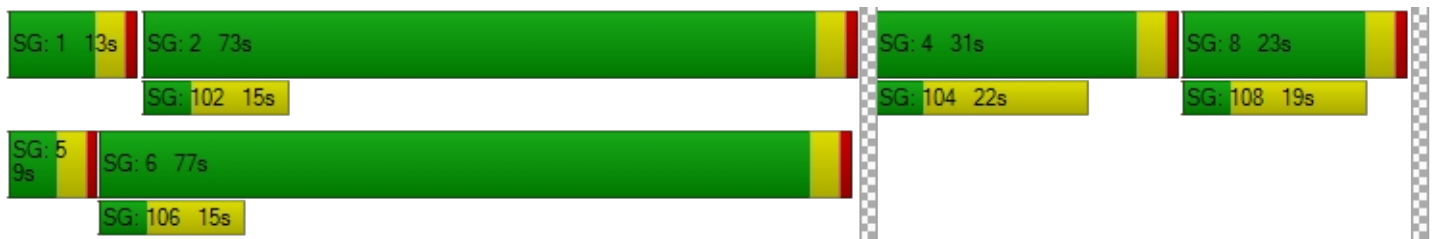
d_M, Delay for Movement [s/veh]	77.66	43.09	14.16	83.39	133.93	16.58	53.97	53.97	75.08	78.60	52.15	52.15
Movement LOS	E	D	B	F	F	B	D	D	E	E	D	D
d_A, Approach Delay [s/veh]	44.06			133.14			70.54			70.65		
Approach LOS	D			F			E			E		
d_I, Intersection Delay [s/veh]	85.16											
Intersection LOS	F											
Intersection V/C	0.949											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	61.29	61.29
I_p,int, Pedestrian LOS Score for Intersection	2.879	2.751	2.215	2.144
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1043	986	271	386
d_b, Bicycle Delay [s]	16.03	18.00	52.29	45.60
I_b,int, Bicycle LOS Score for Intersection	3.447	3.484	2.093	2.246
Bicycle LOS	C	C	B	B

**Sequence**





Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.507

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	21	771	203	97	1043	0	0	12	69	193	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	182	0	11	424	0	0	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	0	0	0	18	0	0	13
Total Hourly Volume [veh/h]	21	968	155	110	1488	0	0	12	52	197	5	38
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	250	40	28	384	0	0	3	13	51	1	10
Total Analysis Volume [veh/h]	22	999	160	114	1536	0	0	12	54	203	5	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	23	23	12	25	0	0	9	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	38	38	6	42	42	4	4	6	6	6
g / C, Green / Cycle	0.03	0.55	0.55	0.08	0.60	0.60	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.28	0.10	0.06	0.40	0.40	0.01	0.03	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	49	1967	878	151	1140	1140	101	86	167	167	149
d1, Uniform Delay [s]	33.68	10.11	8.12	31.51	9.43	9.43	31.68	32.57	30.72	30.72	29.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.46	0.94	0.46	7.53	3.19	3.19	0.52	7.28	3.79	3.77	0.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.51	0.18	0.76	0.67	0.67	0.12	0.63	0.62	0.62	0.26
d, Delay for Lane Group [s/veh]	40.14	11.05	8.58	39.04	12.62	12.62	32.20	39.85	34.51	34.49	30.60
Lane Group LOS	D	B	A	D	B	B	C	D	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.45	4.37	1.17	2.14	7.28	7.28	0.20	1.04	1.81	1.81	0.63
50th-Percentile Queue Length [ft/ln]	11.14	109.24	29.24	53.49	182.01	182.01	5.06	26.10	45.22	45.29	15.76
95th-Percentile Queue Length [veh/ln]	0.80	7.80	2.11	3.85	11.71	11.71	0.36	1.88	3.26	3.26	1.14
95th-Percentile Queue Length [ft/ln]	20.05	194.95	52.64	96.28	292.64	292.64	9.12	46.99	81.40	81.52	28.38

**Movement, Approach, & Intersection Results**

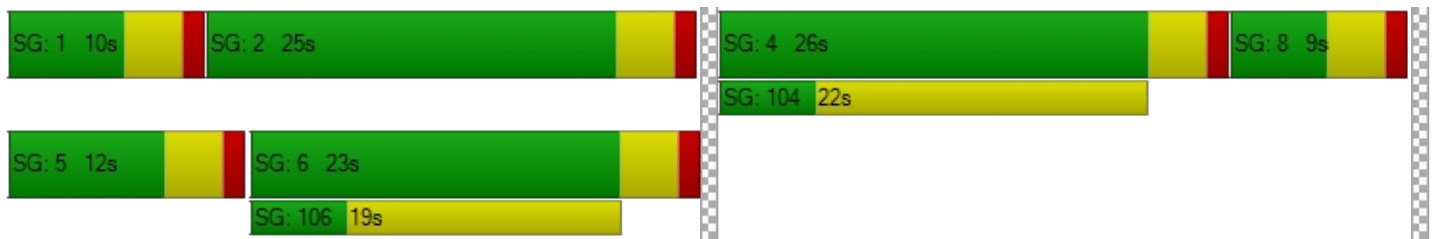
d_M, Delay for Movement [s/veh]	40.14	11.05	8.58	39.04	12.62	12.62	32.20	32.20	39.85	34.50	34.49	30.60
Movement LOS	D	B	A	D	B	B	C	C	D	C	C	C
d_A, Approach Delay [s/veh]	11.25			14.45			38.46			33.89		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	15.28											
Intersection LOS	B											
Intersection V/C	0.507											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.815			0.000			2.284		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	542			599			143			627		
d_b, Bicycle Delay [s]	18.64			17.21			30.24			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.577			2.921			1.698			1.989		
Bicycle LOS	B			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.608

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	202	284	0	0	1131	170	0	0	0	71	0	708
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	40	0	0	418	6	0	0	0	0	0	142
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	45	0	0	0	0	0	216
Total Hourly Volume [veh/h]	206	330	0	0	1572	134	0	0	0	72	0	648
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	1.0000	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	85	0	0	406	35	0	0	0	19	0	168
Total Analysis Volume [veh/h]	213	341	0	0	1626	139	0	0	0	74	0	670
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	9	48	36		4
g / C, Green / Cycle	0.14	0.81	0.60		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.09	0.45		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	263	2915	2149		111
d1, Uniform Delay [s]	24.90	1.25	9.01		27.65
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.89	0.08	2.55		6.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.81	0.12	0.76		0.67
d, Delay for Lane Group [s/veh]	30.79	1.33	11.55		34.43
Lane Group LOS	C	A	B		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	3.18	0.10	6.47		1.20
50th-Percentile Queue Length [ft/ln]	79.52	2.44	161.65		29.91
95th-Percentile Queue Length [veh/ln]	5.73	0.18	10.64		2.15
95th-Percentile Queue Length [ft/ln]	143.14	4.39	265.91		53.83

**Movement, Approach, & Intersection Results**

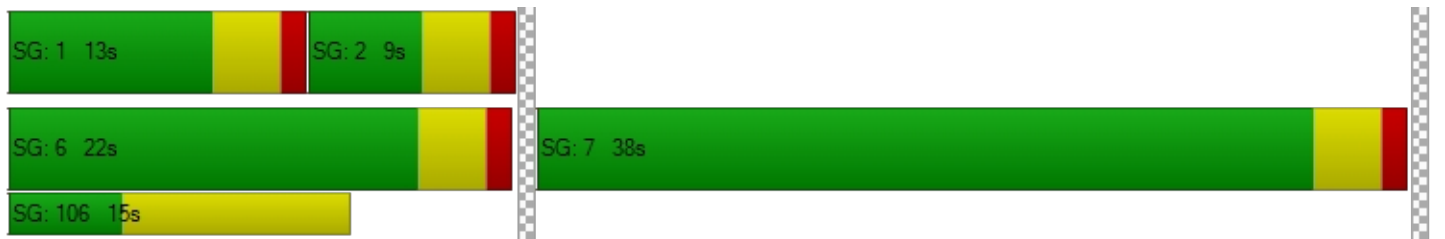
d_M, Delay for Movement [s/veh]	30.79	1.33	0.00	0.00	11.55	0.00	0.00	0.00	0.00	0.00	34.43	0.00	0.00
Movement LOS	C	A			B						C		
d_A, Approach Delay [s/veh]	12.66				11.55				0.00		34.43		
Approach LOS	B				B				A		C		
d_I, Intersection Delay [s/veh]	12.57												
Intersection LOS	B												
Intersection V/C	0.608												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.945	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	2.017		2.901		4.132		1.560	
Bicycle LOS	B		C		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	55.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.883

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			←↑↑			↑↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	456	63	512	574	0	120	0	752	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	33	0	347	71	0	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	0	0	0	192	0	0	0
Total Hourly Volume [veh/h]	0	498	48	869	656	0	129	0	575	0	0	0
Peak Hour Factor	1.0000	0.9280	0.9280	0.9280	0.9280	1.0000	0.9280	1.0000	0.9280	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	134	13	234	177	0	35	0	155	0	0	0
Total Analysis Volume [veh/h]	0	537	52	936	707	0	139	0	620	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	18	0	39	57	0	23	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	80	80	80	80	80	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	14	35	53	19	19	
g / C, Green / Cycle	0.18	0.44	0.66	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.15	0.52	0.20	0.08	0.22	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	637	790	2398	429	678	
d1, Uniform Delay [s]	31.92	22.55	5.66	25.23	29.74	
k, delay calibration	0.50	0.50	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	12.85	95.64	0.31	0.43	5.34	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.84	1.18	0.29	0.32	0.91	
d, Delay for Lane Group [s/veh]	44.77	118.19	5.97	25.66	35.09	
Lane Group LOS	D	F	A	C	D	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.00	34.51	2.13	2.17	6.08	
50th-Percentile Queue Length [ft/ln]	150.12	862.73	53.24	54.29	151.92	
95th-Percentile Queue Length [veh/ln]	10.02	49.61	3.83	3.91	10.12	
95th-Percentile Queue Length [ft/ln]	250.59	1240.36	95.83	97.71	252.99	

**Movement, Approach, & Intersection Results**

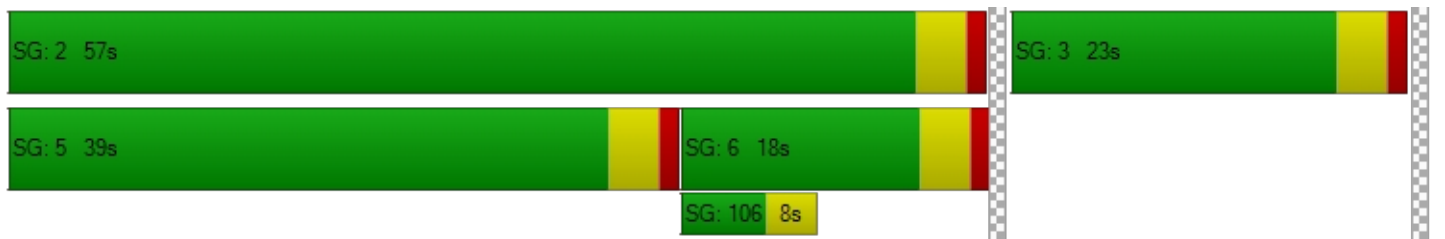
d_M, Delay for Movement [s/veh]	0.00	44.77	0.00	118.19	5.97	0.00	25.66	0.00	35.09	0.00	0.00	0.00
Movement LOS		D		F	A		C		D			
d_A, Approach Delay [s/veh]	44.77			69.90			33.36			0.00		
Approach LOS	D			E			C			A		
d_I, Intersection Delay [s/veh]	55.87											
Intersection LOS	E											
Intersection V/C	0.883											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			31.53		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.332		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	350			1324			475			0		
d_b, Bicycle Delay [s]	27.25			4.57			23.28			40.02		
I_b,int, Bicycle LOS Score for Intersection	2.003			2.915			1.560			4.132		
Bicycle LOS	B			C			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	16	0	0	22	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	75	0	7	33	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	0	7	55	0	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	2	14	0	4
Total Analysis Volume [veh/h]	96	0	7	58	0	18
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.42	0.00	9.47	8.82
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.35	0.35	1.43	1.43
d_A, Approach Delay [s/veh]	0.00		0.80		8.82	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.18					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.089

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0200	1.0000	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	58	0	7	26	0	0	0	0	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	74	0	7	48	0	0	0	0	0	0	17
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	0	2	13	0	0	0	0	0	0	4
Total Analysis Volume [veh/h]	0	78	0	7	51	0	0	0	0	0	0	17
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.09	0.00	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.27	9.50	8.70	9.31	9.34	8.64	7.25	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.29	0.21	0.21	0.21	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.30	7.30	7.30	5.23	5.23	5.23	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.50			9.34			2.42			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.39											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	50	26	4	22	0	0	0	0	11	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	66	26	4	44	0	0	0	0	11	0	9
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	7	1	12	0	0	0	0	3	0	2
Total Analysis Volume [veh/h]	0	69	26	4	46	0	0	0	0	11	0	9
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	7.29	0.00	0.00	7.39	0.00	0.00	9.36	9.84	8.50	9.39	9.85	8.75
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.20	0.20	0.20	0.00	0.00	0.00	1.71	1.71	1.71
d_A, Approach Delay [s/veh]	0.00			0.59			9.23			9.10		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.28											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	434	423	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	180	68	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	623	499	0	0	17
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	164	131	0	0	4
Total Analysis Volume [veh/h]	7	656	525	0	0	17
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	8.44	0.00	0.00	0.00	0.00	11.67
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.09
95th-Percentile Queue Length [ft/ln]	0.50	0.50	0.00	0.00	0.00	2.36
d_A, Approach Delay [s/veh]	0.09		0.00		11.67	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.21					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	434	0	0	423	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	128	0	15	73	0	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	571	0	15	504	0	33
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	150	0	4	133	0	8
Total Analysis Volume [veh/h]	601	0	15	531	0	33
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.00	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	8.71	0.00	0.00	12.64
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.00	0.21
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.16	1.16	0.00	5.24
d_A, Approach Delay [s/veh]	0.00		0.24		12.64	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.46					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.373

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑ →			← ↑ →			↑			↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	434	0	0	423	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	120	21	0	69	4	8	0	52	52	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	1	0	0	13	0	0	0
Total Hourly Volume [veh/h]	21	563	16	0	500	3	8	0	39	52	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	148	4	0	132	1	2	0	10	14	0	0
Total Analysis Volume [veh/h]	22	593	17	0	526	3	8	0	41	55	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	28	0	9	27	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	45	0	43	3	3
g / C, Green / Cycle	0.03	0.75	0.00	0.72	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.01	0.34	0.00	0.29	0.03	0.03
s, saturation flow rate [veh/h]	1714	1791	1714	1798	1742	1689
c, Capacity [veh/h]	48	1337	3	1296	161	208
d1, Uniform Delay [s]	28.80	2.93	0.00	3.33	27.83	27.92
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.84	1.12	0.00	0.95	1.06	0.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.46	0.46	0.00	0.41	0.31	0.26
d, Delay for Lane Group [s/veh]	35.64	4.06	0.00	4.28	28.90	28.59
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.37	1.01	0.00	1.65	0.70	0.77
50th-Percentile Queue Length [ft/ln]	9.32	25.20	0.00	41.35	17.52	19.37
95th-Percentile Queue Length [veh/ln]	0.67	1.81	0.00	2.98	1.26	1.39
95th-Percentile Queue Length [ft/ln]	16.78	45.35	0.00	74.43	31.53	34.86

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	35.64	4.06	4.06	0.00	4.28	4.28	28.90	28.90	28.90	28.59	28.59	28.59
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.16			4.28			28.90			28.59		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	6.73											
Intersection LOS	A											
Intersection V/C	0.373											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.626			2.301			1.757			1.733		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			766			632			632		
d_b, Bicycle Delay [s]	10.83			11.44			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.611			2.434			1.662			1.650		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	18.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.063

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	220	101	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	17	7	398	169	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	17	7	622	272	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	2	164	72	2
Total Analysis Volume [veh/h]	18	18	7	655	286	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.02	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	18.45	10.60	7.83	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.28	0.28	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.10	7.10	0.41	0.41	0.00	0.00
d_A, Approach Delay [s/veh]	14.52		0.08		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.58					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	30	42	42	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	9	7	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	35	52	50	17	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	14	13	4	0
Total Analysis Volume [veh/h]	0	37	55	53	18	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.41	0.00	0.00	0.00	9.17	8.74
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	1.56	1.56
d_A, Approach Delay [s/veh]	0.00		0.00		9.17	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.01					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	19	0	0	21	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	7	0	9	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	7	0	30	17	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	2	0	8	4	0
Total Analysis Volume [veh/h]	24	7	0	32	18	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.26	0.00	8.85	8.49
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	1.44	1.44
d_A, Approach Delay [s/veh]	0.00		0.00		8.85	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.97					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	19	0	0	21	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	13	0	25	0	0	0	0	33	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	13	0	46	0	0	0	0	33	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	3	0	12	0	0	0	0	9	0	0
Total Analysis Volume [veh/h]	0	32	14	0	48	0	0	0	0	35	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	7.29	0.00	0.00	7.29	0.00	0.00	8.98	9.50	8.51	9.14	9.62	8.63
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.02	3.02	3.02
d_A, Approach Delay [s/veh]	0.00			0.00			9.00			9.14		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.48											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	229	102	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	473	200	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	0	0	707	304	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	0	186	80	2
Total Analysis Volume [veh/h]	19	0	0	744	320	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	14.96	9.69	7.89	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.93	3.93	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.96		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.037

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	114	105	0	0	33
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	30	28	0	0	9
Total Analysis Volume [veh/h]	16	120	111	0	0	35
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	7.44	0.00	0.00	0.00	10.13	8.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.81	0.81	0.00	0.00	2.87	2.87
d_A, Approach Delay [s/veh]	0.88		0.00		8.94	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.53					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	15	33	0	0	26
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	129	138	0	0	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	34	36	0	0	7
Total Analysis Volume [veh/h]	13	136	145	0	0	27
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	7.51	0.00	0.00	0.00	10.40	9.09
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.68	0.68	0.00	0.00	2.30	2.30
d_A, Approach Delay [s/veh]	0.65		0.00		9.09	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.07					
Intersection LOS	A					

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**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	647	1277	626	604	998	900	996	602	505	617	7772

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	171	1460	190	726	1212	141	326	548	83	191	339	825	6212

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1779	13	49	1450	9	52	3352

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	166	1360	44	159	1169	107	180	159	126	101	135	220	3926

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	60	9	39	26	7	9	11	442	32	24	456	17	1132

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	173	365	84	17	258	10	8	309	193	47	287	30	1781

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	472	441	182	385	178	96	1754

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	43	8	11	24	16	24	24	348	28	13	315	32	886

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	71	8	10	629	271	33	1022

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	13	32	10	98	51	15	30	674	20	8	301	79	1331

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	620	1503	1243	650	453	5	577	5051

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1596	609	405	1261	594	2	365	4832

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	7	2003	2	40	1356	238	181	4	16	1	2	120	3970

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	118	1402	28	156	1029	169	432	324	145	29	174	194	4200

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	160	1430	33	78	991	70	127	141	128	27	115	57	3357

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	151	1155	38	103	921	172	335	131	262	46	67	78	3459

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	52	1291	9	40	1122	30	65	23	34	18	21	15	2720

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	152	1184	16	55	1099	34	54	21	340	32	10	18	3015

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	1009	190	242	1127	9	13	7	5	405	9	382	3407

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	16	484	435	826	662	23	30	51	15	304	86	632	3564

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	14	7	362	11	370	386	782	9	8	662	341	2965

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	84	963	84	9	1140	4	7	47	266	288	70	53	3015

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	21	968	207	110	1488	0	0	12	70	197	5	51	3129

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	206	330	1572	179	72	864	3223

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	498	64	869	656	129	767	2983

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	91	0	7	55	0	17	170

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	74	0	7	48	0	0	0	0	0	0	17	146

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	66	26	4	44	0	0	0	0	11	0	9	160

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	7	623	499	0	17	1146	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	571	0	15	504	33	1123	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	21	563	21	0	500	4	8	0	52	52	0	0	1221

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	17	17	7	622	272	7	942

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	35	52	50	17	0	154

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	23	7	0	30	17	0	77

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	30	13	0	46	0	0	0	0	33	0	0	122

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	18	0	0	707	304	7	1036

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	15	114	105	0	0	33	267

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	12	129	138	0	0	26	305

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**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Left	0.704	35.4	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.708	39.9	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.381	3.8	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.482	22.9	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.630	14.9	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	1.427	128.1	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	1.486	386.0	F
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.100	19.7	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.140	18.9	C
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.959	31.4	D
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	1.027	67.0	E
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	NB Thru	0.865	48.6	D
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.689	20.0	B
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.912	78.3	E
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.742	34.3	C
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	8.103	170.3	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	NB Left	0.486	9.6	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	NB Left	0.719	27.5	C
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	WB Left	0.981	56.2	E
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	SB Left	1.056	104.5	F
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	SB Left	0.978	37.3	D
22	Market St/24th St	Signalized	HCM 6th Edition	SB Thru	0.928	77.7	E
23	Market St/Rivera St	Signalized	HCM 6th Edition	NB Left	0.497	15.1	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.597	12.3	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.860	48.6	D
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.007	8.6	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	NB Thru	0.050	9.3	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.006	9.0	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.014	11.4	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.029	12.2	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.344	4.7	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.021	16.1	C
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.009	9.1	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.008	8.8	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.016	8.9	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.018	13.3	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.017	8.9	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.014	8.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	35.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.704

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	475	1171	571	592	946	882	976	0	525	479	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	118	64	44	0	26	0	0	0	48	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	157	0	0	225	0	0	146	0	0	154
Total Hourly Volume [veh/h]	603	1258	469	604	991	675	996	0	438	505	0	463
Peak Hour Factor	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	1.0000	0.9910	0.9910	1.0000	0.9910
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	152	317	118	152	250	170	251	0	110	127	0	117
Total Analysis Volume [veh/h]	608	1269	473	609	1000	681	1005	0	442	510	0	467
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	42	22	42	35	35
g / C, Green / Cycle	0.20	0.38	0.20	0.38	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.17	0.25	0.17	0.19	0.29	0.15
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	687	1963	688	1965	1109	1109
d1, Uniform Delay [s]	42.99	28.03	42.97	26.20	36.05	30.11
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.03	1.66	4.02	0.95	3.16	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.88	0.65	0.88	0.51	0.91	0.46
d, Delay for Lane Group [s/veh]	47.02	29.69	46.99	27.15	39.21	30.41
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.19	9.06	8.28	6.72	12.04	4.94
50th-Percentile Queue Length [ft/ln]	204.70	226.44	207.09	167.93	300.95	123.55
95th-Percentile Queue Length [veh/ln]	12.88	13.99	13.00	10.97	17.73	8.59
95th-Percentile Queue Length [ft/ln]	322.02	349.83	325.09	274.19	443.20	214.69



**Movement, Approach, & Intersection Results**

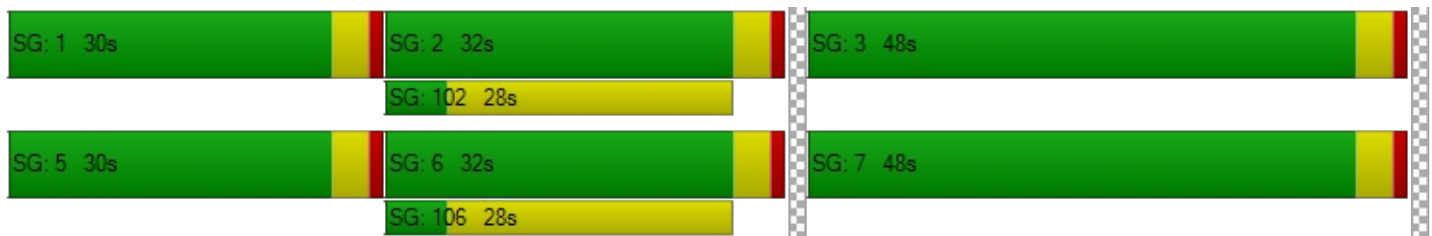
d_M, Delay for Movement [s/veh]	47.02	29.69	0.00	46.99	27.15	0.00	39.21	0.00	0.00	30.41	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	35.30			34.66			39.21			30.41		
Approach LOS	D			C			D			C		
d_I, Intersection Delay [s/veh]	35.38											
Intersection LOS	D											
Intersection V/C	0.704											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	46.34	46.34
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	3.032	2.858
Crosswalk LOS	F	F	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	509	509	800	800
d_b, Bicycle Delay [s]	30.53	30.53	19.77	19.77
I_b,int, Bicycle LOS Score for Intersection	2.592	2.445	1.560	1.560
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	39.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	1262	183	675	1117	134	308	523	80	181	307	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	110	3	37	48	4	12	15	1	6	26	104
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	48	0	0	35	0	0	21	0	0	206
Total Hourly Volume [veh/h]	171	1397	142	726	1187	106	326	548	62	191	339	619
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	360	37	187	306	27	84	141	16	49	87	160
Total Analysis Volume [veh/h]	176	1440	146	748	1224	109	336	565	64	197	349	638
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	22	40	0	32	50	0	18	40	0	18	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	53	53	28	73	73	14	23	23	9	19	51
g / C, Green / Cycle	0.07	0.41	0.41	0.22	0.56	0.56	0.11	0.18	0.18	0.07	0.14	0.39
(v / s)_i Volume / Saturation Flow Rate	0.05	0.23	0.23	0.21	0.24	0.25	0.10	0.16	0.04	0.06	0.10	0.22
s, saturation flow rate [veh/h]	3514	5176	1787	3514	3618	1822	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	236	2127	734	757	2023	1019	380	644	288	255	516	1111
d1, Uniform Delay [s]	59.55	29.22	29.22	50.84	16.73	16.77	57.18	52.04	45.72	59.25	52.91	31.28
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.64	1.05	3.01	12.69	0.69	1.38	6.90	4.00	0.39	4.96	1.56	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.55	0.55	0.99	0.44	0.44	0.88	0.88	0.22	0.77	0.68	0.57
d, Delay for Lane Group [s/veh]	64.19	30.26	32.23	63.53	17.42	18.15	64.08	56.04	46.11	64.21	54.47	31.75
Lane Group LOS	E	C	C	E	B	B	E	E	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.92	9.10	9.83	13.21	7.55	7.87	5.69	9.10	1.77	3.28	5.36	7.58
50th-Percentile Queue Length [ft/ln]	73.06	227.42	245.71	330.28	188.69	196.81	142.16	227.54	44.28	81.90	134.02	189.56
95th-Percentile Queue Length [veh/ln]	5.26	14.04	14.97	19.17	12.05	12.47	9.60	14.05	3.19	5.90	9.16	12.10
95th-Percentile Queue Length [ft/ln]	131.51	351.07	374.24	479.30	301.32	311.84	239.94	351.24	79.71	147.42	228.94	302.45

**Movement, Approach, & Intersection Results**

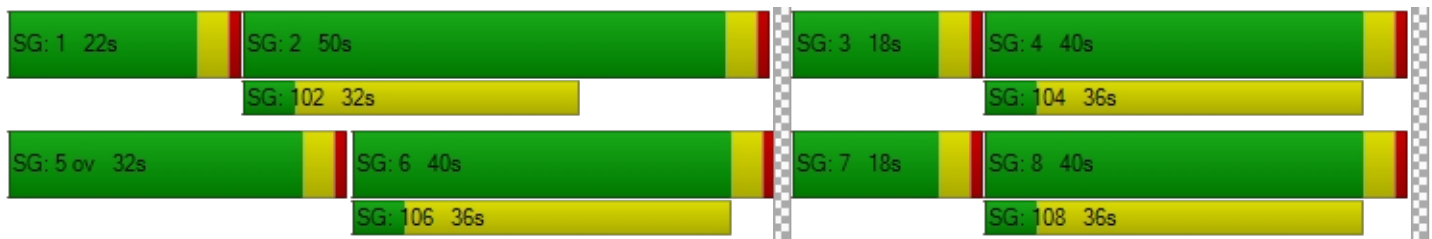
d_M, Delay for Movement [s/veh]	64.19	30.62	32.23	63.53	17.62	18.15	64.08	56.04	46.11	64.21	54.47	31.75
Movement LOS	E	C	C	E	B	B	E	E	D	E	D	C
d_A, Approach Delay [s/veh]	34.11			34.15			58.18			43.85		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	39.92											
Intersection LOS	D											
Intersection V/C	0.708											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.535	3.602	3.077	3.684
Crosswalk LOS	D	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	708	554	554
d_b, Bicycle Delay [s]	33.99	27.14	33.99	33.99
I_b,int, Bicycle LOS Score for Intersection	2.306	2.723	2.373	2.706
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	3.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1569	13	48	1343	9	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	115	0	0	55	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	3	0	0	0	13
Total Hourly Volume [veh/h]	1715	10	49	1425	9	39
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	442	3	13	367	2	10
Total Analysis Volume [veh/h]	1768	10	51	1469	9	40
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	9	58	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	76	76	4	83	4	4
g / C, Green / Cycle	0.80	0.80	0.04	0.88	0.04	0.04
(v / s)_i Volume / Saturation Flow Rate	0.34	0.01	0.01	0.28	0.00	0.02
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4117	1285	139	4539	70	63
d1, Uniform Delay [s]	3.02	2.00	44.47	1.00	44.12	45.01
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.01	1.62	0.19	0.82	10.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.01	0.37	0.32	0.13	0.64
d, Delay for Lane Group [s/veh]	3.35	2.01	46.09	1.19	44.93	55.36
Lane Group LOS	A	A	D	A	D	E
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.55	0.02	0.61	0.32	0.22	1.10
50th-Percentile Queue Length [ft/ln]	38.72	0.50	15.32	8.03	5.48	27.56
95th-Percentile Queue Length [veh/ln]	2.79	0.04	1.10	0.58	0.39	1.98
95th-Percentile Queue Length [ft/ln]	69.70	0.90	27.57	14.45	9.87	49.61

**Movement, Approach, & Intersection Results**

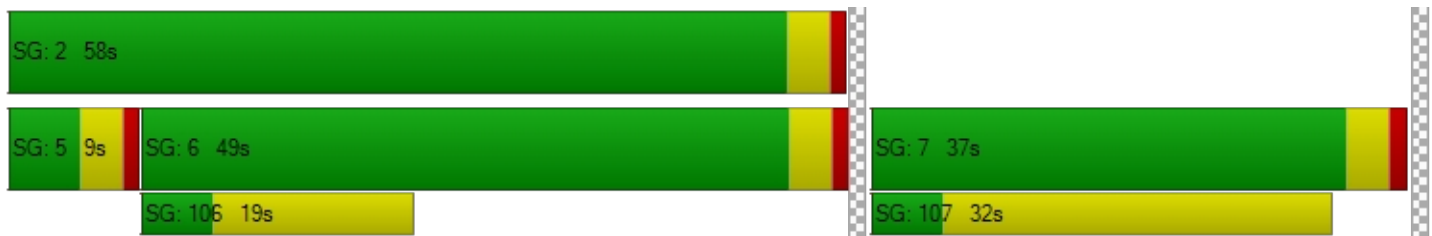
d_M, Delay for Movement [s/veh]	3.35	2.01	46.09	1.19	44.93	55.36
Movement LOS	A	A	D	A	D	E
d_A, Approach Delay [s/veh]	3.34		2.70		53.45	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	A					
Intersection V/C	0.381					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	38.93	38.93
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.137	2.184
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	947	1137	695
d_b, Bicycle Delay [s]	13.16	8.85	20.23
I_b,int, Bicycle LOS Score for Intersection	2.539	2.396	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	163	1298	43	104	1127	97	155	135	124	99	118	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	0	28	19	8	22	21	0	0	15	57
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	27	0	0	0	0	0	39
Total Hourly Volume [veh/h]	166	1360	44	134	1169	80	180	159	126	101	135	118
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	343	11	34	295	20	45	40	32	26	34	30
Total Analysis Volume [veh/h]	168	1374	44	135	1181	81	182	161	127	102	136	119
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	34	0	9	32	0	16	40	0	12	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	53	53	5	52	52	11	14	14	7	9	9
g / C, Green / Cycle	0.07	0.56	0.56	0.05	0.54	0.54	0.12	0.15	0.15	0.07	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.03	0.04	0.24	0.24	0.10	0.04	0.08	0.06	0.04	0.07
s, saturation flow rate [veh/h]	3459	5094	1589	3514	3560	1809	1810	3618	1589	1781	3618	1615
c, Capacity [veh/h]	239	2847	888	188	1935	983	217	528	232	131	360	161
d1, Uniform Delay [s]	43.33	12.67	9.52	44.32	12.97	12.97	40.97	36.33	37.73	43.33	40.10	41.66
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.74	0.59	0.11	5.04	0.71	1.39	8.34	0.32	2.01	9.58	0.66	6.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.48	0.05	0.72	0.43	0.43	0.84	0.31	0.55	0.78	0.38	0.74
d, Delay for Lane Group [s/veh]	47.07	13.26	9.62	49.36	13.67	14.36	49.31	36.65	39.74	52.91	40.76	48.24
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.04	5.63	0.42	1.68	5.19	5.46	4.63	1.68	2.85	2.69	1.51	2.98
50th-Percentile Queue Length [ft/ln]	51.03	140.75	10.53	42.12	129.71	136.48	115.63	42.05	71.17	67.14	37.76	74.50
95th-Percentile Queue Length [veh/ln]	3.67	9.52	0.76	3.03	8.92	9.29	8.15	3.03	5.12	4.83	2.72	5.36
95th-Percentile Queue Length [ft/ln]	91.86	238.04	18.95	75.82	223.10	232.27	203.81	75.70	128.10	120.85	67.97	134.10

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	47.07	13.26	9.62	49.36	13.87	14.36	49.31	36.65	39.74	52.91	40.76	48.24
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	16.74			17.33			42.39			46.72		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	22.93											
Intersection LOS	C											
Intersection V/C	0.482											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.97	38.97	38.97	38.97
I_p,int, Pedestrian LOS Score for Intersection	3.178	3.150	2.600	2.632
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	631	589	757	673
d_b, Bicycle Delay [s]	22.27	23.66	18.36	20.92
I_b,int, Bicycle LOS Score for Intersection	2.432	2.343	1.947	1.886
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	6	25	7	9	11	360	6	9	305	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	0	15	0	0	0	0	60	13	8	106	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	9	21	26	7	9	11	427	19	17	417	17
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	2	5	7	2	2	3	111	5	4	108	4
Total Analysis Volume [veh/h]	28	9	22	27	7	9	11	444	20	18	434	18
Pedestrian Volume [ped/h]	0			0			0			0		

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**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	594	577	754	752
Degree of Utilization, x	0.10	0.07	0.63	0.62

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.33	0.24	4.52	4.44
95th-Percentile Queue Length [ft]	8.24	6.02	113.12	110.97
Approach Delay [s/veh]	9.74	9.74	15.55	15.42
Approach LOS	A	A	C	C
Intersection Delay [s/veh]	14.92			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	128.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.427

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	50	81	7	0	29	0	0	54	20	4	64	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	355	74	17	255	10	8	284	185	44	263	30
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	92	19	4	66	3	2	73	48	11	68	8
Total Analysis Volume [veh/h]	156	367	77	18	264	10	8	294	192	46	272	31
Pedestrian Volume [ped/h]	0			0			0			0		

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**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	600	392	494	406
Degree of Utilization, x	1.43	0.75	1.15	0.86

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	29.96	5.95	18.14	8.43
95th-Percentile Queue Length [ft]	749.08	148.69	453.38	210.82
Approach Delay [s/veh]	229.14	34.69	118.03	46.94
Approach LOS	F	D	F	E
Intersection Delay [s/veh]	128.13			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	386.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.486

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	352	154	59	326	40	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	2.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	109	281	53	43	128	25
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	468	438	113	376	169	72
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	126	118	30	101	46	19
Total Analysis Volume [veh/h]	504	472	122	405	182	78
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.17	0.00	1.49	0.19
d_M, Delay for Movement [s/veh]	0.00	0.00	11.07	0.00	386.04	365.22
Movement LOS	A	A	B	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.61	0.61	18.36	18.36
95th-Percentile Queue Length [ft/ln]	0.00	0.00	15.31	15.31	459.12	459.12
d_A, Approach Delay [s/veh]	0.00		2.56		379.79	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	56.78					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	19.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.100

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	11	8	11	13	16	21	16	269	13	13	249	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	11	0	3	8	47	8	0	50	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	8	11	24	16	24	24	321	21	13	304	32
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	2	3	6	4	6	6	85	6	3	81	8
Total Analysis Volume [veh/h]	28	8	12	25	17	25	25	340	22	14	322	34
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**




V/C, Movement V/C Ratio	0.10	0.03	0.02	0.08	0.05	0.04	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	19.70	18.26	11.95	19.14	18.33	12.04	8.03	0.00	0.00	8.02	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.49	0.49	0.49	0.62	0.62	0.62	0.06	0.06	0.06	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	12.36	12.36	12.36	15.52	15.52	15.52	1.58	1.58	1.58	0.88	0.88	0.88
d_A, Approach Delay [s/veh]	17.52			16.29			0.52			0.30		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	2.57											
Intersection LOS	C											



**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.140

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name						
Base Volume Input [veh/h]	13	8	10	210	93	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	0	0	337	149	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	8	10	551	244	21
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	2	3	153	68	6
Total Analysis Volume [veh/h]	42	9	11	613	271	23
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	18.89	11.63	7.84	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.53	0.53	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	13.21	13.21	0.65	0.65	0.00	0.00
d_A, Approach Delay [s/veh]	17.61		0.14		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.02					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	31.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.959

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	⊕			⊕			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	27	0	0	0	370	0	0	165	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	32	10	66	51	15	30	554	20	8	259	67
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	17	13	4	8	145	5	2	68	18
Total Analysis Volume [veh/h]	14	34	10	69	53	16	31	580	21	8	271	70
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	533	548	637	732	603	687
Degree of Utilization, x	0.11	0.25	0.96	0.03	0.46	0.10

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.36	0.99	13.59	0.09	2.44	0.34
95th-Percentile Queue Length [ft]	9.11	24.80	339.64	2.21	60.90	8.48
Approach Delay [s/veh]	10.59	11.78	47.94		12.67	
Approach LOS	B	B	E		B	
Intersection Delay [s/veh]	31.40					
Intersection LOS	D					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	67.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.027

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	238	110	0	0	49	0	0	0	0	83	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	163	0	0	0	0	0	144
Total Hourly Volume [veh/h]	575	1485	0	0	1236	487	0	0	0	436	5	433
Peak Hour Factor	0.9320	0.9320	1.0000	1.0000	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	154	398	0	0	332	131	0	0	0	117	1	116
Total Analysis Volume [veh/h]	617	1593	0	0	1326	523	0	0	0	468	5	465
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	26	55	0	0	29	0	0	0	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	80	80	80	80		80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	22	51	25	25		21	21
g / C, Green / Cycle	0.28	0.64	0.31	0.31		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.38	0.46	0.27	0.34		0.28	0.30
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1715	1530
c, Capacity [veh/h]	446	2184	1531	478		451	402
d1, Uniform Delay [s]	29.05	9.85	25.98	27.57		29.55	29.55
k, delay calibration	0.46	0.50	0.50	0.50		0.26	0.31
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	185.76	2.18	6.82	69.30		44.24	87.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.38	0.73	0.87	1.09		1.05	1.16
d, Delay for Lane Group [s/veh]	214.81	12.03	32.80	96.86		73.79	116.61
Lane Group LOS	F	B	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	31.13	8.37	8.49	17.82		13.81	17.10
50th-Percentile Queue Length [ft/ln]	778.25	209.31	212.17	445.57		345.15	427.45
95th-Percentile Queue Length [veh/ln]	47.66	13.12	13.26	26.16		20.47	25.87
95th-Percentile Queue Length [ft/ln]	1191.38	327.94	331.61	653.97		511.63	646.84



**Movement, Approach, & Intersection Results**

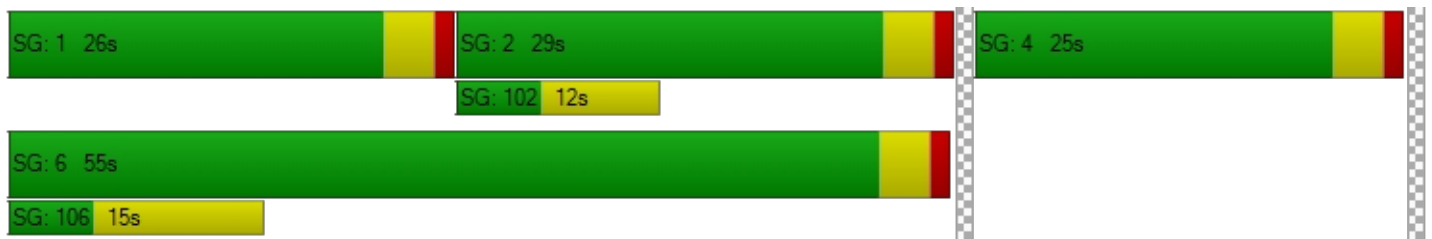
d_M, Delay for Movement [s/veh]	214.81	12.03	0.00	0.00	32.80	96.86	0.00	0.00	0.00	73.79	73.79	116.61
Movement LOS	F	B			C	F				F	E	F
d_A, Approach Delay [s/veh]	68.64				50.92		0.00		95.02			
Approach LOS	E				D		A		F			
d_I, Intersection Delay [s/veh]	67.04											
Intersection LOS	E											
Intersection V/C	1.027											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		31.55		31.55	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.348		2.492	
Crosswalk LOS	F		F		B		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1274		624		0		524	
d_b, Bicycle Delay [s]	5.28		18.95		40.04		21.80	
I_b,int, Bicycle LOS Score for Intersection	3.383		2.666		4.132		3.345	
Bicycle LOS	C		B		D		C	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	48.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.865

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1162	352	397	1083	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	348	202	0	132	0	0	0	108	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	140	0	0	0	0	0	88	0	0	0
Total Hourly Volume [veh/h]	0	1533	421	405	1237	0	594	2	262	0	0	0
Peak Hour Factor	1.0000	0.9660	0.9660	0.9660	0.9660	1.0000	0.9660	0.9660	0.9660	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	397	109	105	320	0	154	1	68	0	0	0
Total Analysis Volume [veh/h]	0	1587	436	419	1281	0	615	2	271	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	25	0	22	47	0	0	23	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	21	21	18	43	19	19	
g / C, Green / Cycle	0.30	0.30	0.26	0.61	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.32	0.28	0.26	0.37	0.27	0.28	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1599	
c, Capacity [veh/h]	1471	459	417	2106	440	434	
d1, Uniform Delay [s]	24.59	24.08	26.08	8.34	25.51	25.58	
k, delay calibration	0.50	0.50	0.16	0.50	0.18	0.20	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	47.99	31.24	26.20	1.32	24.00	38.17	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.08	0.95	1.00	0.61	0.99	1.04	
d, Delay for Lane Group [s/veh]	72.58	55.31	52.28	9.66	49.51	63.75	
Lane Group LOS	F	E	F	A	D	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	14.06	10.54	9.54	5.12	9.69	11.35	
50th-Percentile Queue Length [ft/ln]	351.60	263.44	238.51	127.97	242.22	283.73	
95th-Percentile Queue Length [veh/ln]	21.15	15.86	14.65	8.83	14.79	17.25	
95th-Percentile Queue Length [ft/ln]	528.72	396.54	366.13	220.73	369.85	431.26	

**Movement, Approach, & Intersection Results**

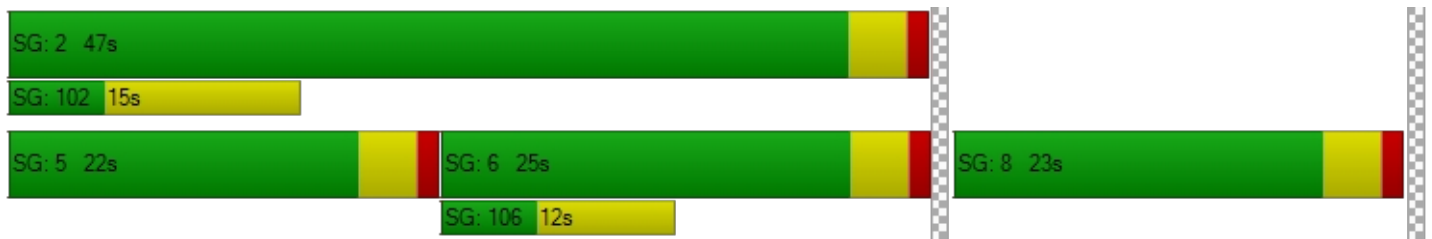
d_M, Delay for Movement [s/veh]	0.00	72.58	55.31	52.28	9.66	0.00	53.56	63.75	63.75	0.00	0.00	0.00
Movement LOS		F	E	F	A		D	E	E			
d_A, Approach Delay [s/veh]		68.86		20.16			56.75			0.00		
Approach LOS		E		C			E			A		
d_I, Intersection Delay [s/veh]	48.57											
Intersection LOS	D											
Intersection V/C	0.865											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		0.00		26.64		26.64
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.372		2.190
Crosswalk LOS	F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	599		1226		542		0
d_b, Bicycle Delay [s]	17.21		5.25		18.64		35.06
I_b,int, Bicycle LOS Score for Intersection	2.749		2.962		3.170		4.132
Bicycle LOS	B		C		C		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	20.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.689

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	1316	2	39	1056	233	177	4	16	1	2	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	550	0	0	240	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	30
Total Hourly Volume [veh/h]	7	1892	1	40	1317	238	181	4	16	1	2	90
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	484	0	10	337	61	46	1	4	0	1	23
Total Analysis Volume [veh/h]	7	1935	1	41	1347	243	185	4	16	1	2	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



Version 2021 (SP 0-2)

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	33	40	0	0	36	0	0	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	52	52	59	55	55	18	18	18
g / C, Green / Cycle	0.70	0.62	0.62	0.70	0.64	0.64	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.54	0.54	0.12	0.39	0.16	0.14	0.01	0.06
s, saturation flow rate [veh/h]	462	1800	1800	354	3427	1506	1302	1552	1470
c, Capacity [veh/h]	334	1082	1082	252	2155	947	277	343	368
d1, Uniform Delay [s]	7.10	14.61	14.62	16.63	9.65	6.98	32.11	26.13	27.52
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	11.36	11.38	1.39	1.38	0.65	2.78	0.07	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.02	0.89	0.89	0.16	0.63	0.26	0.67	0.06	0.26
d, Delay for Lane Group [s/veh]	7.12	25.98	25.99	18.02	11.03	7.64	34.88	26.20	27.89
Lane Group LOS	A	C	C	B	B	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.03	16.38	16.38	0.27	6.56	1.78	3.79	0.33	1.64
50th-Percentile Queue Length [ft/ln]	0.80	409.45	409.61	6.86	164.01	44.44	94.72	8.19	41.10
95th-Percentile Queue Length [veh/ln]	0.06	23.01	23.02	0.49	10.76	3.20	6.82	0.59	2.96
95th-Percentile Queue Length [ft/ln]	1.44	575.37	575.57	12.34	269.02	79.98	170.50	14.75	73.98

**Movement, Approach, & Intersection Results**

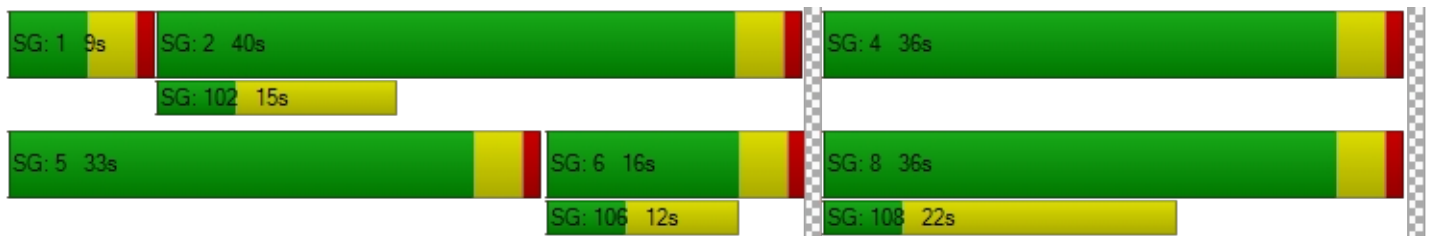
d_M, Delay for Movement [s/veh]	7.12	25.98	25.99	18.02	11.03	7.64	34.88	26.20	26.20	27.89	27.89	27.89
Movement LOS	A	C	C	B	B	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	25.92			10.70			34.04			27.89		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	19.99											
Intersection LOS	B											
Intersection V/C	0.689											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.98	0.00	33.98	33.98
I_p,int, Pedestrian LOS Score for Intersection	2.946	0.000	2.094	1.877
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	282	847	753	753
d_b, Bicycle Delay [s]	31.35	14.12	16.52	16.52
I_b,int, Bicycle LOS Score for Intersection	3.163	2.905	1.898	1.766
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	78.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.912

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	380	1	9	172	59	154	11	19	3	10	22
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	1291	28	156	989	169	432	324	145	29	174	194
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	338	7	41	259	44	113	85	38	8	46	51
Total Analysis Volume [veh/h]	124	1352	29	163	1036	177	452	339	152	30	182	203
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	13	33	0	27	45	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	36	36	9	39	39	23	36	36	3	16	16
g / C, Green / Cycle	0.06	0.36	0.36	0.09	0.39	0.39	0.23	0.36	0.36	0.03	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.39	0.39	0.10	0.35	0.35	0.28	0.10	0.10	0.02	0.10	0.13
s, saturation flow rate [veh/h]	1593	1772	1758	1593	1772	1683	1593	3373	1506	1593	1772	1506
c, Capacity [veh/h]	97	638	633	145	691	656	366	1214	542	47	283	240
d1, Uniform Delay [s]	47.02	32.04	32.04	45.53	28.65	28.79	38.56	22.80	22.81	48.07	39.42	40.89
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.41	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	141.75	60.94	61.89	75.62	16.65	18.23	123.32	0.12	0.28	13.53	2.45	7.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.28	1.09	1.09	1.13	0.90	0.90	1.23	0.28	0.28	0.64	0.64	0.85
d, Delay for Lane Group [s/veh]	188.77	92.98	93.93	121.15	45.30	47.02	161.88	22.93	23.09	61.60	41.88	48.83
Lane Group LOS	F	F	F	F	D	D	F	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.22	25.64	25.62	6.60	16.58	16.21	21.36	2.83	2.56	0.91	4.35	5.34
50th-Percentile Queue Length [ft/ln]	155.42	641.01	640.45	164.90	414.54	405.26	534.12	70.72	64.03	22.84	108.73	133.45
95th-Percentile Queue Length [veh/ln]	11.02	35.88	35.91	11.26	23.26	22.81	32.26	5.09	4.61	1.64	7.77	9.13
95th-Percentile Queue Length [ft/ln]	275.42	897.07	897.63	281.57	581.49	570.34	806.55	127.30	115.26	41.12	194.23	228.17

**Movement, Approach, & Intersection Results**

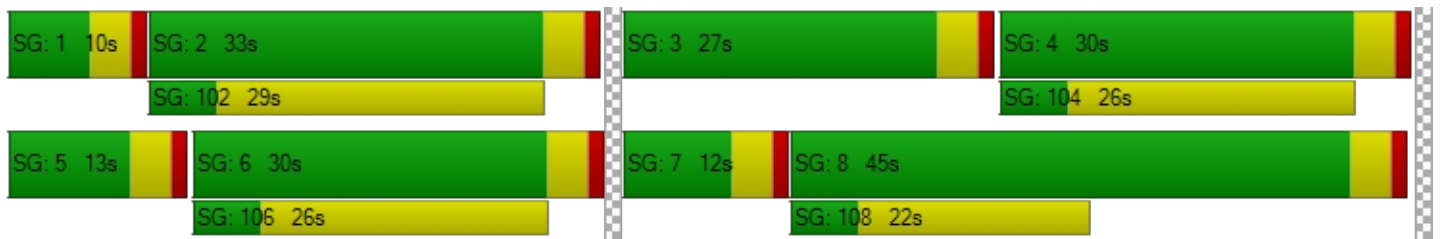
d_M, Delay for Movement [s/veh]	188.77	93.44	93.93	121.15	45.99	47.02	161.88	22.93	23.09	61.60	41.88	48.83
Movement LOS	F	F	F	F	D	D	F	C	C	E	D	D
d_A, Approach Delay [s/veh]	101.31			55.03			89.56			46.70		
Approach LOS	F			E			F			D		
d_I, Intersection Delay [s/veh]	78.32											
Intersection LOS	E											
Intersection V/C	0.912											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.44	41.44	41.44	41.44
I_p,int, Pedestrian LOS Score for Intersection	2.837	3.009	2.799	2.613
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	580	819	520
d_b, Bicycle Delay [s]	27.41	25.24	17.43	27.41
I_b,int, Bicycle LOS Score for Intersection	2.801	2.695	2.338	1.902
Bicycle LOS	C	B	B	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	34.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.742

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	110	927	32	76	759	47	75	135	93	26	112	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	48	400	0	0	188	12	22	3	33	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	1346	33	78	962	60	99	141	128	27	115	57
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	371	9	21	265	17	27	39	35	7	32	16
Total Analysis Volume [veh/h]	176	1482	36	86	1059	66	109	155	141	30	127	63
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	18	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	27	27	4	25	25	17	17
g / C, Green / Cycle	0.10	0.45	0.45	0.07	0.41	0.41	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.11	0.43	0.43	0.05	0.32	0.32	0.26	0.13
s, saturation flow rate [veh/h]	1593	1772	1757	1593	1772	1735	1577	1649
c, Capacity [veh/h]	161	788	781	110	731	716	528	540
d1, Uniform Delay [s]	27.04	16.25	16.31	27.55	15.27	15.28	20.37	17.57
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	60.32	24.64	25.61	11.19	7.95	8.14	2.37	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.09	0.97	0.97	0.78	0.78	0.78	0.77	0.41
d, Delay for Lane Group [s/veh]	87.36	40.90	41.92	38.73	23.22	23.42	22.74	18.06
Lane Group LOS	F	D	D	D	C	C	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.88	13.88	14.04	1.49	7.39	7.29	5.22	2.24
50th-Percentile Queue Length [ft/ln]	122.05	346.95	351.03	37.36	184.78	182.21	130.59	55.93
95th-Percentile Queue Length [veh/ln]	8.76	19.99	20.19	2.69	11.85	11.72	8.97	4.03
95th-Percentile Queue Length [ft/ln]	219.04	499.69	504.66	67.25	296.24	292.90	224.29	100.67

**Movement, Approach, & Intersection Results**

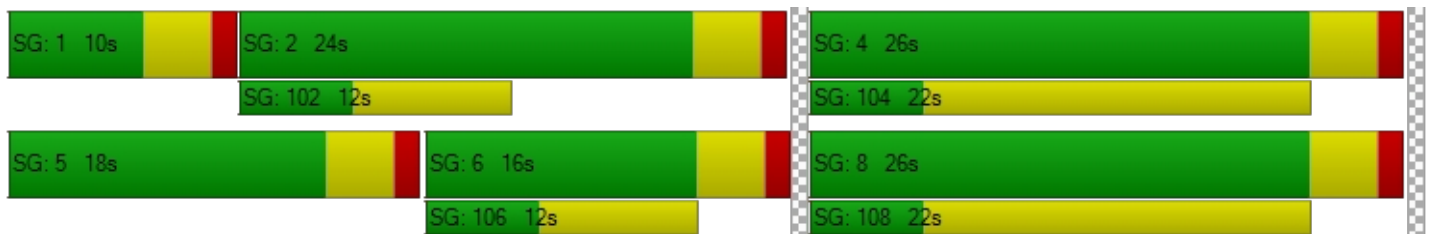
d_M, Delay for Movement [s/veh]	87.36	41.40	41.92	38.73	23.32	23.42	22.74	22.74	22.74	18.06	18.06	18.06
Movement LOS	F	D	D	D	C	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	46.18			24.42			22.74			18.06		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	34.27											
Intersection LOS	C											
Intersection V/C	0.742											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.893	2.994	2.073	2.019
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	399	666	732	732
d_b, Bicycle Delay [s]	19.24	13.37	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.957	2.559	2.228	1.923
Bicycle LOS	C	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	170.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	8.103

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	70	239	0	0	127	95	211	31	154	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	0	0	0	50	0	0	0
Total Hourly Volume [veh/h]	129	1155	28	103	921	143	251	122	151	46	64	78
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	306	7	27	244	38	66	32	40	12	17	21
Total Analysis Volume [veh/h]	137	1224	30	109	976	151	266	129	160	49	68	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	25	0	9	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	21	21	5	21	21	22	22	22	22
g / C, Green / Cycle	0.08	0.35	0.35	0.08	0.35	0.35	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.08	0.36	0.36	0.07	0.33	0.33	7.68	0.10	0.50	0.06
s, saturation flow rate [veh/h]	1619	1772	1757	1593	1772	1690	51	1530	234	1506
c, Capacity [veh/h]	139	619	614	137	619	590	119	559	170	551
d1, Uniform Delay [s]	27.52	19.63	19.63	27.04	18.92	18.95	27.75	13.56	16.07	12.85
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.46	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	31.42	40.39	40.97	9.89	22.59	23.84	1069.14	0.28	18.74	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.98	1.02	1.02	0.79	0.93	0.93	3.33	0.29	0.69	0.15
d, Delay for Lane Group [s/veh]	58.94	60.02	60.59	36.93	41.51	42.79	1096.89	13.84	34.81	12.97
Lane Group LOS	E	F	F	D	D	D	F	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.07	14.54	14.51	1.83	10.70	10.44	36.88	1.42	1.85	0.70
50th-Percentile Queue Length [ft/ln]	76.86	363.47	362.86	45.73	267.40	260.99	922.08	35.52	46.26	17.41
95th-Percentile Queue Length [veh/ln]	5.53	21.02	21.01	3.29	16.06	15.74	64.56	2.56	3.33	1.25
95th-Percentile Queue Length [ft/ln]	138.35	525.46	525.24	82.31	401.49	393.47	1614.01	63.93	83.27	31.34

**Movement, Approach, & Intersection Results**

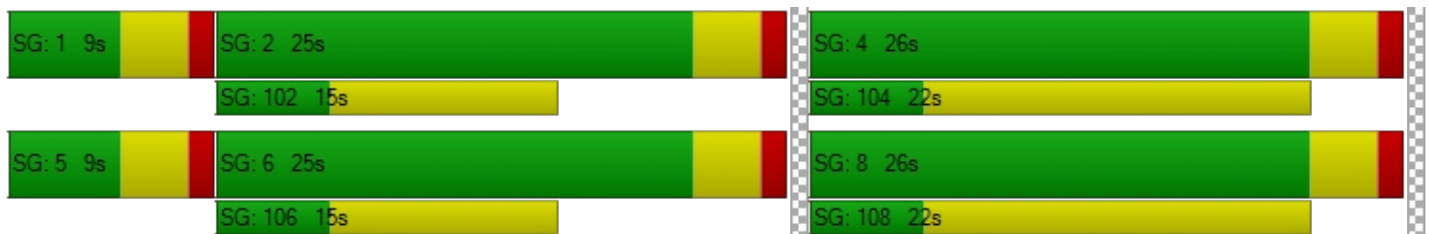
d_M, Delay for Movement [s/veh]	58.94	60.30	60.59	36.93	42.04	42.79	1096.89	1096.89	13.84	34.81	34.81	12.97
Movement LOS	E	E	E	D	D	D	F	F	B	C	C	B
d_A, Approach Delay [s/veh]	60.17			41.68			784.66			25.75		
Approach LOS	E			D			F			C		
d_I, Intersection Delay [s/veh]	170.27											
Intersection LOS	F											
Intersection V/C	8.103											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.76			21.76			21.76			21.76		
I_p,int, Pedestrian LOS Score for Intersection	2.879			3.207			2.304			2.076		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	698			698			731			731		
d_b, Bicycle Delay [s]	12.75			12.75			12.10			12.10		
I_b,int, Bicycle LOS Score for Intersection	2.715			2.579			2.558			1.890		
Bicycle LOS	B			B			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.486

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	51	941	9	39	767	27	63	23	33	18	21	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	308	0	0	279	2	1	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	8	0	0	9	0	0	4
Total Hourly Volume [veh/h]	52	1268	7	40	1061	22	65	23	25	18	21	11
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	344	2	11	288	6	18	6	7	5	6	3
Total Analysis Volume [veh/h]	56	1377	8	43	1152	24	71	25	27	20	23	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	40	3	39	39	6	6
g / C, Green / Cycle	0.05	0.66	0.66	0.04	0.65	0.65	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.39	0.39	0.03	0.33	0.33	0.07	0.03
s, saturation flow rate [veh/h]	1619	1800	1796	1619	1800	1787	1648	1753
c, Capacity [veh/h]	84	1190	1188	71	1176	1167	252	249
d1, Uniform Delay [s]	27.98	5.61	5.61	28.22	5.38	5.38	26.45	25.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.87	2.09	2.09	8.09	1.53	1.54	1.47	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.67	0.58	0.58	0.61	0.50	0.50	0.49	0.22
d, Delay for Lane Group [s/veh]	36.85	7.70	7.71	36.31	6.91	6.92	27.92	25.83
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.96	3.78	3.78	0.74	3.02	3.01	1.72	0.72
50th-Percentile Queue Length [ft/ln]	23.92	94.49	94.41	18.42	75.56	75.16	42.99	18.12
95th-Percentile Queue Length [veh/ln]	1.72	6.80	6.80	1.33	5.44	5.41	3.10	1.30
95th-Percentile Queue Length [ft/ln]	43.06	170.08	169.93	33.16	136.01	135.29	77.38	32.62

**Movement, Approach, & Intersection Results**

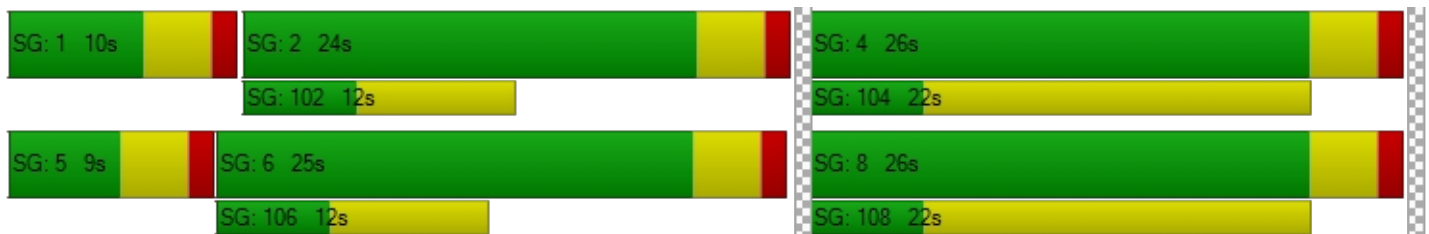
d_M, Delay for Movement [s/veh]	36.85	7.70	7.71	36.31	6.91	6.92	27.92	27.92	27.92	25.83	25.83	25.83
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.83			7.95			27.92			25.83		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.61											
Intersection LOS	A											
Intersection V/C	0.486											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.829			2.918			1.827			1.768		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			666			733			733		
d_b, Bicycle Delay [s]	12.69			13.35			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.750			2.572			1.777			1.657		
Bicycle LOS	C			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.719

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	105	845	14	52	766	14	45	21	284	29	10	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	303	2	2	266	11	5	0	50	2	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	0	0	0	0	0	0	5
Total Hourly Volume [veh/h]	152	1165	12	55	1047	25	51	21	340	32	10	13
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	314	3	15	282	7	14	6	92	9	3	4
Total Analysis Volume [veh/h]	164	1257	13	59	1129	27	55	23	367	35	11	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	29	0	10	28	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	29	29	3	25	25	21	21
g / C, Green / Cycle	0.11	0.45	0.45	0.05	0.39	0.39	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.10	0.35	0.35	0.04	0.32	0.32	0.29	0.08
s, saturation flow rate [veh/h]	1593	1800	1794	1619	1800	1785	1516	725
c, Capacity [veh/h]	173	800	797	85	698	693	546	319
d1, Uniform Delay [s]	28.84	15.54	15.55	30.36	18.00	18.01	21.31	15.67
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.18	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.00	8.02	8.07	9.83	11.05	11.16	5.07	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.95	0.79	0.80	0.70	0.83	0.83	0.82	0.19
d, Delay for Lane Group [s/veh]	49.84	23.56	23.62	40.18	29.06	29.17	26.38	15.96
Lane Group LOS	D	C	C	D	C	C	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.43	8.79	8.78	1.10	9.13	9.08	6.70	0.61
50th-Percentile Queue Length [ft/ln]	85.78	219.85	219.58	27.61	228.27	227.05	167.53	15.30
95th-Percentile Queue Length [veh/ln]	6.18	13.66	13.64	1.99	14.09	14.02	10.95	1.10
95th-Percentile Queue Length [ft/ln]	154.40	341.44	341.09	49.70	352.17	350.61	273.67	27.54

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.84	23.59	23.62	40.18	29.11	29.17	26.38	26.38	26.38	15.96	15.96	15.96
Movement LOS	D	C	C	D	C	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	26.59			29.65			26.38			15.96		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	27.54											
Intersection LOS	C											
Intersection V/C	0.719											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.16	24.16	24.16	24.16
I_p,int, Pedestrian LOS Score for Intersection	2.919	2.860	2.015	1.787
Crosswalk LOS	C	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	768	738	676	676
d_b, Bicycle Delay [s]	12.34	12.96	14.26	14.26
I_b,int, Bicycle LOS Score for Intersection	2.746	2.562	2.294	1.667
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	56.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.981

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			+			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	822	124	153	826	9	13	7	5	219	9	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	152	64	86	232	0	0	0	0	182	0	197
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	48	0	0	2	0	0	1	0	0	96
Total Hourly Volume [veh/h]	9	990	142	242	1075	7	13	7	4	405	9	286
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	277	40	68	300	2	4	2	1	113	3	80
Total Analysis Volume [veh/h]	10	1106	159	270	1201	8	15	8	4	453	10	320
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	44	0	15	39	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	40	40	11	50	50	22	22	22
g / C, Green / Cycle	0.01	0.47	0.47	0.13	0.59	0.59	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.01	0.36	0.36	0.17	0.34	0.34	0.21	0.45	0.21
s, saturation flow rate [veh/h]	1619	1800	1722	1619	1800	1796	128	1018	1530
c, Capacity [veh/h]	22	846	809	211	1055	1053	99	347	396
d1, Uniform Delay [s]	41.63	18.64	18.68	37.00	10.97	10.97	26.17	34.18	29.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.16	0.50	0.15
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.51	6.46	6.85	134.37	2.27	2.27	2.11	168.09	5.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.76	0.77	1.28	0.57	0.57	0.27	1.33	0.81
d, Delay for Lane Group [s/veh]	55.14	25.10	25.53	171.36	13.24	13.25	28.29	202.28	34.98
Lane Group LOS	E	C	C	F	B	B	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.29	11.20	10.86	12.15	6.93	6.92	0.46	23.43	6.52
50th-Percentile Queue Length [ft/ln]	7.23	280.06	271.61	303.72	173.20	173.01	11.48	585.74	162.89
95th-Percentile Queue Length [veh/ln]	0.52	16.69	16.27	19.66	11.24	11.23	0.83	36.29	10.70
95th-Percentile Queue Length [ft/ln]	13.01	417.29	406.75	491.60	281.11	280.86	20.66	907.26	267.55



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	55.14	25.28	25.53	171.36	13.24	13.25	28.29	28.29	28.29	202.28	202.28	34.98
Movement LOS	E	C	C	F	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	25.55			42.11			28.29			133.91		
Approach LOS	C			D			C			F		
d_I, Intersection Delay [s/veh]	56.25											
Intersection LOS	E											
Intersection V/C	0.981											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			33.99			33.99			33.99		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.911			1.743			2.519		
Crosswalk LOS	F			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	941			823			517			517		
d_b, Bicycle Delay [s]	11.92			14.72			23.36			23.36		
I_b,int, Bicycle LOS Score for Intersection	2.651			2.781			1.606			3.010		
Bicycle LOS	B			C			A			C		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	104.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.056

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	134	31	243	171	0	0	0	0	70	0	82
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	6	0	0	0	0	0	155
Total Hourly Volume [veh/h]	16	479	435	788	648	17	30	51	15	304	86	463
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	132	120	217	178	5	8	14	4	84	24	127
Total Analysis Volume [veh/h]	18	528	479	868	714	19	33	56	17	335	95	510
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	135
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	70	39	0	55	24	0	0	9	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	135	135	135	135	135	135	135	135	135
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	35	35	51	84	84	5	5	28
g / C, Green / Cycle	0.02	0.26	0.26	0.38	0.62	0.62	0.04	0.04	0.21
(v / s)_i Volume / Saturation Flow Rate	0.01	0.15	0.30	0.48	0.20	0.01	0.02	0.04	0.24
s, saturation flow rate [veh/h]	1781	3560	1589	1810	3560	1615	1810	1825	1829
c, Capacity [veh/h]	33	927	414	682	2203	999	67	68	379
d1, Uniform Delay [s]	65.71	43.36	49.93	42.07	12.28	9.94	63.75	65.00	53.50
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.49
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.60	2.54	94.86	134.31	0.39	0.03	5.48	73.50	87.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.55	0.57	1.16	1.27	0.32	0.02	0.49	1.08	1.13
d, Delay for Lane Group [s/veh]	79.31	45.90	144.79	176.38	12.67	9.97	69.23	138.50	140.95
Lane Group LOS	E	D	F	F	B	A	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.74	8.04	24.82	47.81	5.22	0.23	1.22	3.72	22.06
50th-Percentile Queue Length [ft/ln]	18.52	200.92	620.39	1195.37	130.41	5.73	30.47	92.90	551.47
95th-Percentile Queue Length [veh/ln]	1.33	12.69	35.89	69.02	8.96	0.41	2.19	6.69	31.84
95th-Percentile Queue Length [ft/ln]	33.33	317.15	897.31	1725.50	224.05	10.31	54.85	167.22	796.03

**Movement, Approach, & Intersection Results**

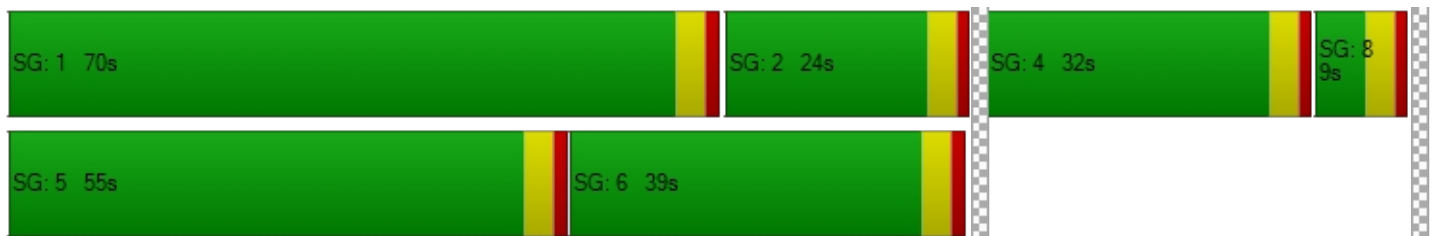
d_M, Delay for Movement [s/veh]	79.31	45.90	144.79	176.38	12.67	9.97	69.23	138.50	138.50	140.95	140.95	0.00
Movement LOS	E	D	F	F	B	A	E	F	F	F	F	
d_A, Approach Delay [s/veh]	92.70			101.40			116.93			140.95		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	104.48											
Intersection LOS	F											
Intersection V/C	1.056											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	519			296			74			415		
d_b, Bicycle Delay [s]	37.04			48.98			62.59			42.40		
I_b,int, Bicycle LOS Score for Intersection	2.405			2.885			1.735			2.269		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	37.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	14	7	181	11	293	339	499	9	8	556	266
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	177	0	71	40	235	0	0	81	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	2	0	0	0
Total Hourly Volume [veh/h]	13	14	7	362	11	370	386	744	7	8	648	341
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	2	96	3	98	103	198	2	2	172	91
Total Analysis Volume [veh/h]	14	15	7	385	12	393	410	791	7	9	689	362
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	24	35	0	10	21	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	26	26	19	36	36	1	18	18
g / C, Green / Cycle	0.35	0.35	0.35	0.25	0.48	0.48	0.01	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.17	0.52	0.25	0.23	0.22	0.00	0.01	0.19	0.23
s, saturation flow rate [veh/h]	218	763	1589	1781	3560	1615	1781	3560	1589
c, Capacity [veh/h]	143	361	555	450	1707	774	21	849	379
d1, Uniform Delay [s]	19.76	27.87	21.13	27.22	13.07	10.21	36.82	26.97	28.17
k, delay calibration	0.50	0.50	0.50	0.14	0.11	0.11	0.11	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.20	77.18	7.47	9.28	0.20	0.00	13.17	1.92	15.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.25	1.10	0.71	0.91	0.46	0.01	0.43	0.81	0.95
d, Delay for Lane Group [s/veh]	23.97	105.05	28.60	36.50	13.27	10.22	49.99	28.89	43.53
Lane Group LOS	C	F	C	D	B	B	D	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.56	14.21	6.74	7.92	4.08	0.06	0.24	5.76	7.69
50th-Percentile Queue Length [ft/ln]	13.99	355.30	168.47	197.97	102.10	1.42	5.93	144.08	192.36
95th-Percentile Queue Length [veh/ln]	1.01	21.63	11.00	12.53	7.35	0.10	0.43	9.70	12.24
95th-Percentile Queue Length [ft/ln]	25.19	540.68	274.90	313.35	183.79	2.56	10.67	242.51	306.08

**Movement, Approach, & Intersection Results**

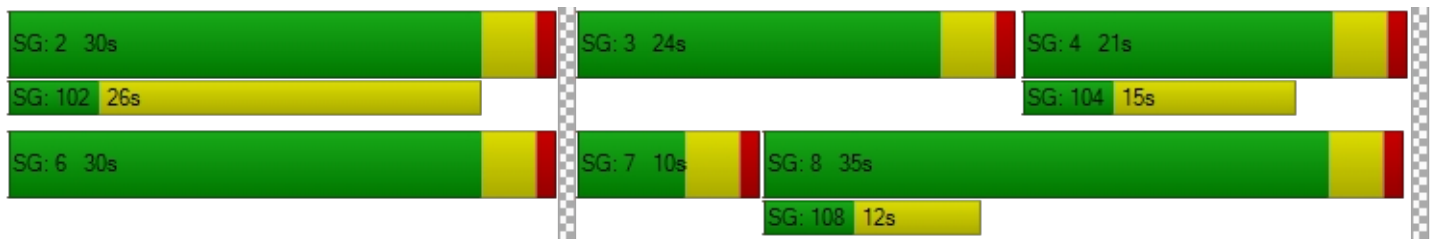
d_M, Delay for Movement [s/veh]	23.97	23.97	23.97	105.05	105.05	28.60	36.50	13.27	10.22	49.99	28.89	43.53
Movement LOS	C	C	C	F	F	C	D	B	B	D	C	D
d_A, Approach Delay [s/veh]	23.97			67.02			21.13			34.07		
Approach LOS	C			E			C			C		
d_I, Intersection Delay [s/veh]	37.32											
Intersection LOS	D											
Intersection V/C	0.978											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.05	29.05	29.05	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.739	2.445	2.843	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	827	453
d_b, Bicycle Delay [s]	16.01	16.01	12.91	22.43
I_b,int, Bicycle LOS Score for Intersection	1.619	2.863	2.558	2.434
Bicycle LOS	A	C	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	77.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.928

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	148	0	0	397	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	0	0	0	67	0	0	0
Total Hourly Volume [veh/h]	84	949	63	9	1102	4	7	47	199	288	70	53
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	240	16	2	279	1	2	12	50	73	18	13
Total Analysis Volume [veh/h]	85	960	64	9	1114	4	7	48	201	291	71	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	77	0	9	73	0	0	23	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	79	79	2	72	72	19	19	24	24
g / C, Green / Cycle	0.06	0.56	0.56	0.01	0.51	0.51	0.14	0.14	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.51	0.04	0.01	0.60	0.00	0.03	0.12	0.16	0.07
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1888	1615	1810	1765
c, Capacity [veh/h]	107	1050	907	20	961	817	261	223	316	309
d1, Uniform Delay [s]	65.04	27.65	14.01	68.76	34.02	16.57	53.57	59.40	56.79	51.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.14	0.27	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.61	13.52	0.15	14.63	83.27	0.01	0.40	15.68	21.81	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.91	0.07	0.45	1.16	0.00	0.21	0.90	0.92	0.41
d, Delay for Lane Group [s/veh]	77.66	41.17	14.16	83.39	117.29	16.58	53.97	75.08	78.60	52.15
Lane Group LOS	E	D	B	F	F	B	D	E	E	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.38	31.86	0.98	0.40	53.89	0.07	1.76	8.00	12.04	4.00
50th-Percentile Queue Length [ft/ln]	84.52	796.40	24.52	10.10	1347.22	1.67	44.11	200.09	301.08	100.05
95th-Percentile Queue Length [veh/ln]	6.09	41.11	1.77	0.73	73.89	0.12	3.18	12.64	17.73	7.20
95th-Percentile Queue Length [ft/ln]	152.14	1027.81	44.14	18.17	1847.27	3.00	79.40	316.09	443.36	180.09

**Movement, Approach, & Intersection Results**

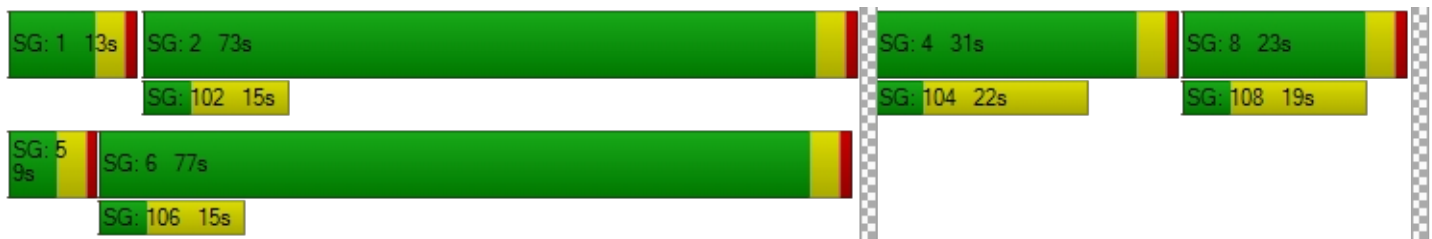
d_M, Delay for Movement [s/veh]	77.66	41.17	14.16	83.39	117.29	16.58	53.97	53.97	75.08	78.60	52.15	52.15
Movement LOS	E	D	B	F	F	B	D	D	E	E	D	D
d_A, Approach Delay [s/veh]	42.40			116.66			70.54			70.65		
Approach LOS	D			F			E			E		
d_I, Intersection Delay [s/veh]	77.70											
Intersection LOS	E											
Intersection V/C	0.928											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	61.29	61.29
l_p,int, Pedestrian LOS Score for Intersection	2.867	2.741	2.215	2.144
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1043	986	271	386
d_b, Bicycle Delay [s]	16.03	18.00	52.29	45.60
l_b,int, Bicycle LOS Score for Intersection	3.424	3.419	2.093	2.246
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	21	771	203	97	1043	0	0	12	69	193	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	168	0	11	386	0	0	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	0	0	0	18	0	0	13
Total Hourly Volume [veh/h]	21	954	155	110	1450	0	0	12	52	197	5	38
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	246	40	28	374	0	0	3	13	51	1	10
Total Analysis Volume [veh/h]	22	985	160	114	1496	0	0	12	54	203	5	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	23	23	12	25	0	0	9	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	38	38	6	42	42	4	4	6	6	6
g / C, Green / Cycle	0.03	0.55	0.55	0.08	0.60	0.60	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.27	0.10	0.06	0.39	0.39	0.01	0.03	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	49	1967	878	151	1140	1140	101	86	167	167	149
d1, Uniform Delay [s]	33.68	10.05	8.12	31.51	9.27	9.27	31.68	32.57	30.72	30.72	29.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.46	0.91	0.46	7.53	2.96	2.96	0.52	7.28	3.79	3.77	0.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.50	0.18	0.76	0.66	0.66	0.12	0.63	0.62	0.62	0.26
d, Delay for Lane Group [s/veh]	40.14	10.97	8.58	39.04	12.22	12.22	32.20	39.85	34.51	34.49	30.60
Lane Group LOS	D	B	A	D	B	B	C	D	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.45	4.28	1.17	2.14	6.94	6.94	0.20	1.04	1.81	1.81	0.63
50th-Percentile Queue Length [ft/ln]	11.14	107.09	29.24	53.49	173.42	173.42	5.06	26.10	45.22	45.29	15.76
95th-Percentile Queue Length [veh/ln]	0.80	7.68	2.11	3.85	11.26	11.26	0.36	1.88	3.26	3.26	1.14
95th-Percentile Queue Length [ft/ln]	20.05	191.94	52.64	96.28	281.41	281.41	9.12	46.99	81.40	81.52	28.38

**Movement, Approach, & Intersection Results**

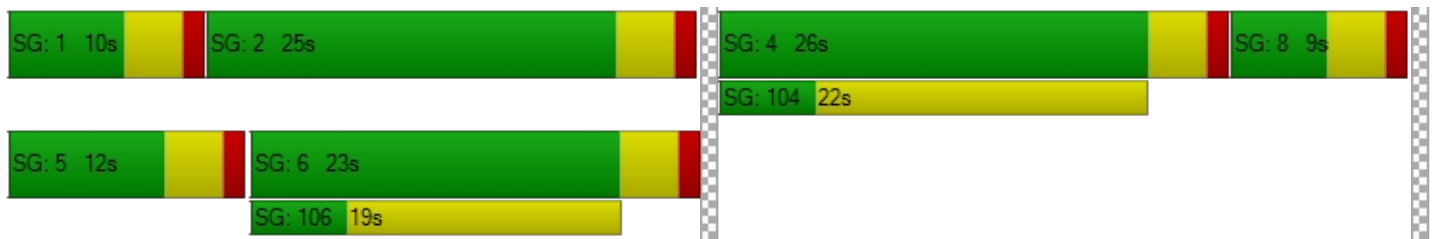
d_M, Delay for Movement [s/veh]	40.14	10.97	8.58	39.04	12.22	12.22	32.20	32.20	39.85	34.50	34.49	30.60
Movement LOS	D	B	A	D	B	B	C	C	D	C	C	C
d_A, Approach Delay [s/veh]	11.19			14.12			38.46			33.89		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	15.11											
Intersection LOS	B											
Intersection V/C	0.497											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.805			0.000			2.284		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	542			599			143			627		
d_b, Bicycle Delay [s]	18.64			17.21			30.24			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.565			2.888			1.698			1.989		
Bicycle LOS	B			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.597

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	202	284	0	0	1131	170	0	0	0	71	0	708
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	40	0	0	380	6	0	0	0	0	0	128
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	45	0	0	0	0	0	213
Total Hourly Volume [veh/h]	206	330	0	0	1534	134	0	0	0	72	0	637
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	1.0000	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	85	0	0	397	35	0	0	0	19	0	165
Total Analysis Volume [veh/h]	213	341	0	0	1586	139	0	0	0	74	0	659
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	9	48	36		4
g / C, Green / Cycle	0.14	0.81	0.60		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.09	0.44		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	263	2915	2149		111
d1, Uniform Delay [s]	24.90	1.25	8.83		27.65
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.89	0.08	2.31		6.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.81	0.12	0.74		0.67
d, Delay for Lane Group [s/veh]	30.79	1.33	11.14		34.43
Lane Group LOS	C	A	B		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	3.18	0.10	6.15		1.20
50th-Percentile Queue Length [ft/ln]	79.52	2.44	153.68		29.91
95th-Percentile Queue Length [veh/ln]	5.73	0.18	10.21		2.15
95th-Percentile Queue Length [ft/ln]	143.14	4.39	255.34		53.83

**Movement, Approach, & Intersection Results**

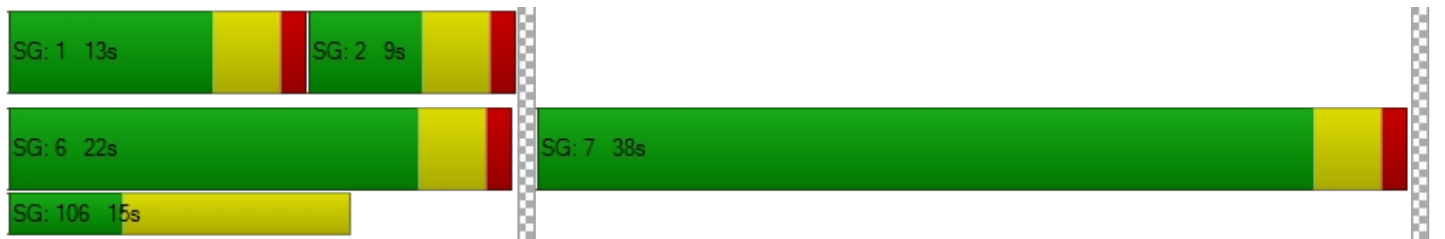
d_M, Delay for Movement [s/veh]	30.79	1.33	0.00	0.00	11.14	0.00	0.00	0.00	0.00	0.00	34.43	0.00	0.00
Movement LOS	C	A			B						C		
d_A, Approach Delay [s/veh]	12.66				11.14				0.00		34.43		
Approach LOS	B				B				A		C		
d_I, Intersection Delay [s/veh]	12.30												
Intersection LOS	B												
Intersection V/C	0.597												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.945	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	2.017		2.868		4.132		1.560	
Bicycle LOS	B		C		D		A	

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	48.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.860

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			←↑↑			↑↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	456	63	512	574	0	120	0	752	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	33	0	309	71	0	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	0	0	0	192	0	0	0
Total Hourly Volume [veh/h]	0	498	48	831	656	0	129	0	575	0	0	0
Peak Hour Factor	1.0000	0.9280	0.9280	0.9280	0.9280	1.0000	0.9280	1.0000	0.9280	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	134	13	224	177	0	35	0	155	0	0	0
Total Analysis Volume [veh/h]	0	537	52	895	707	0	139	0	620	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	18	0	39	57	0	23	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	80	80	80	80	80	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	14	35	53	19	19	
g / C, Green / Cycle	0.18	0.44	0.66	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.15	0.49	0.20	0.08	0.22	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	637	790	2398	429	678	
d1, Uniform Delay [s]	31.92	22.55	5.66	25.23	29.74	
k, delay calibration	0.50	0.50	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	12.85	75.06	0.31	0.43	5.34	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.84	1.13	0.29	0.32	0.91	
d, Delay for Lane Group [s/veh]	44.77	97.62	5.97	25.66	35.09	
Lane Group LOS	D	F	A	C	D	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.00	29.99	2.13	2.17	6.08	
50th-Percentile Queue Length [ft/ln]	150.12	749.82	53.24	54.29	151.92	
95th-Percentile Queue Length [veh/ln]	10.02	42.56	3.83	3.91	10.12	
95th-Percentile Queue Length [ft/ln]	250.59	1064.08	95.83	97.71	252.99	

**Movement, Approach, & Intersection Results**

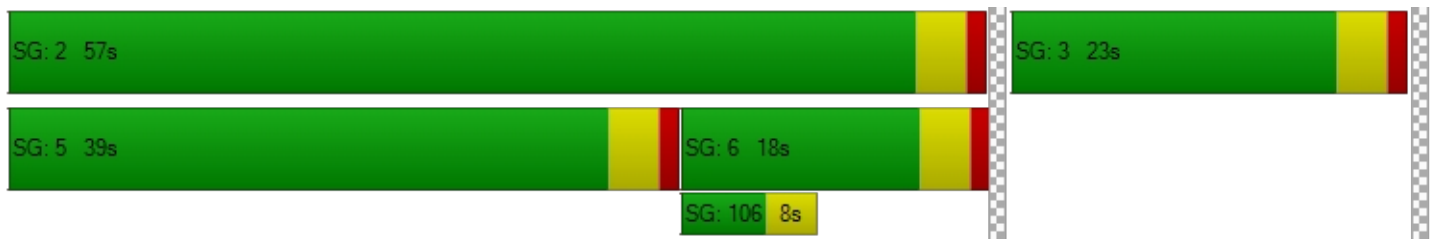
d_M, Delay for Movement [s/veh]	0.00	44.77	0.00	97.62	5.97	0.00	25.66	0.00	35.09	0.00	0.00	0.00
Movement LOS		D		F	A		C		D			
d_A, Approach Delay [s/veh]	44.77			57.17			33.36			0.00		
Approach LOS	D			E			C			A		
d_I, Intersection Delay [s/veh]	48.64											
Intersection LOS	D											
Intersection V/C	0.860											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			31.53		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.292		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	350			1324			475			0		
d_b, Bicycle Delay [s]	27.25			4.57			23.28			40.02		
I_b,int, Bicycle LOS Score for Intersection	2.003			2.881			1.560			4.132		
Bicycle LOS	B			C			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	16	0	0	22	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	0	4	17	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	0	4	39	0	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	1	10	0	2
Total Analysis Volume [veh/h]	53	0	4	41	0	7
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.32	0.00	9.05	8.57
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.19	0.19	0.52	0.52
d_A, Approach Delay [s/veh]	0.00		0.65		8.57	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.85					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0200	1.0000	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	4	13	0	0	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	42	0	4	35	0	0	0	0	0	0	8
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	0	1	9	0	0	0	0	0	0	2
Total Analysis Volume [veh/h]	0	44	0	4	37	0	0	0	0	0	0	8
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.05	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.97	9.27	8.51	8.97	9.23	8.53	7.23	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.16	0.14	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.91	3.91	3.91	3.59	3.59	3.59	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.27			9.21			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.44											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	11	2	11	0	0	0	0	5	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	38	11	2	33	0	0	0	0	5	0	4
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	3	1	9	0	0	0	0	1	0	1
Total Analysis Volume [veh/h]	0	40	11	2	35	0	0	0	0	5	0	4
Pedestrian Volume [ped/h]	0			0			0			0		

Version 2021 (SP 0-2)

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.30	0.00	0.00	9.00	9.48	8.45	9.01	9.49	8.53
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.10	0.10	0.10	0.00	0.00	0.00	0.71	0.71	0.71
d_A, Approach Delay [s/veh]	0.00			0.39			8.98			8.80		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.97											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	434	423	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	139	53	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	582	484	0	0	8
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	153	127	0	0	2
Total Analysis Volume [veh/h]	4	613	509	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	8.39	0.00	0.00	0.00	0.00	11.43
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.04
95th-Percentile Queue Length [ft/ln]	0.28	0.28	0.00	0.00	0.00	1.07
d_A, Approach Delay [s/veh]	0.05		0.00		11.43	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	434	0	0	423	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	117	0	8	52	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	560	0	8	483	0	15
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	147	0	2	127	0	4
Total Analysis Volume [veh/h]	589	0	8	508	0	15
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	8.64	0.00	0.00	12.24
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.00	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.61	0.61	0.00	2.26
d_A, Approach Delay [s/veh]	0.00		0.13		12.24	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	4.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	434	0	0	423	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	113	11	0	50	2	4	0	22	23	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	1	0	0	6	0	0	0
Total Hourly Volume [veh/h]	11	556	8	0	481	1	4	0	16	23	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	146	2	0	127	0	1	0	4	6	0	0
Total Analysis Volume [veh/h]	12	585	8	0	506	1	4	0	17	24	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		0		0		0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	28	0	9	27	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	46	0	45	2	2
g / C, Green / Cycle	0.02	0.77	0.00	0.76	0.03	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.33	0.00	0.28	0.01	0.01
s, saturation flow rate [veh/h]	1714	1796	1714	1799	1764	1682
c, Capacity [veh/h]	30	1381	3	1356	124	170
d1, Uniform Delay [s]	29.26	2.40	0.00	2.54	28.66	28.73
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.75	0.98	0.00	0.79	0.64	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.41	0.43	0.00	0.37	0.17	0.14
d, Delay for Lane Group [s/veh]	38.01	3.38	0.00	3.33	29.31	29.10
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.23	0.61	0.00	1.14	0.31	0.34
50th-Percentile Queue Length [ft/ln]	5.68	15.17	0.00	28.56	7.63	8.56
95th-Percentile Queue Length [veh/ln]	0.41	1.09	0.00	2.06	0.55	0.62
95th-Percentile Queue Length [ft/ln]	10.22	27.30	0.00	51.40	13.74	15.40

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	38.01	3.38	3.38	0.00	3.33	3.33	29.31	29.31	29.31	29.10	29.10	29.10
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.06			3.33			29.31			29.10		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.72											
Intersection LOS	A											
Intersection V/C	0.344											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.525			2.285			1.724			1.713		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			766			632			632		
d_b, Bicycle Delay [s]	10.83			11.44			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.563			2.398			1.604			1.599		
Bicycle LOS	B			B			A			A		

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	220	101	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	8	4	329	145	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	8	4	553	248	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	1	146	65	1
Total Analysis Volume [veh/h]	7	8	4	582	261	4
Pedestrian Volume [ped/h]	0		0		0	

Version 2021 (SP 0-2)

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	16.13	9.86	7.76	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.43	2.43	0.23	0.23	0.00	0.00
d_A, Approach Delay [s/veh]	12.78		0.05		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	C					



**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	30	42	42	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	4	4	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	33	47	47	8	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	12	12	2	0
Total Analysis Volume [veh/h]	0	35	49	49	8	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.39	0.00	0.00	0.00	9.06	8.66
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.68	0.68
d_A, Approach Delay [s/veh]	0.00		0.00		9.06	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	19	0	0	21	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	4	0	4	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	4	0	25	8	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	1	0	7	2	0
Total Analysis Volume [veh/h]	22	4	0	26	8	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.77	8.43
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.63	0.63
d_A, Approach Delay [s/veh]	0.00		0.00		8.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.17					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	19	0	0	21	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	7	0	11	0	0	0	0	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	25	7	0	32	0	0	0	0	14	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	2	0	8	0	0	0	0	4	0	0
Total Analysis Volume [veh/h]	0	26	7	0	34	0	0	0	0	15	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	7.26	0.00	0.00	8.85	9.35	8.45	8.91	9.39	8.49
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	1.22	1.22
d_A, Approach Delay [s/veh]	0.00			0.00			8.88			8.91		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.63											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	229	102	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	362	161	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	596	265	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	157	70	1
Total Analysis Volume [veh/h]	8	0	0	627	279	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	13.32	9.21	7.79	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.39	1.39	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.32		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.12					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	114	105	0	0	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	30	28	0	0	4
Total Analysis Volume [veh/h]	8	120	111	0	0	16
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.43	0.00	0.00	0.00	9.92	8.86
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.40	0.40	0.00	0.00	1.29	1.29
d_A, Approach Delay [s/veh]	0.46		0.00		8.86	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.79					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	8	15	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	122	120	0	0	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	32	32	0	0	3
Total Analysis Volume [veh/h]	6	128	126	0	0	13
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.45	0.00	0.00	0.00	10.03	8.93
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.31	0.31	0.00	0.00	1.06	1.06
d_A, Approach Delay [s/veh]	0.33		0.00		8.93	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.59					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

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Scenario 10 OY PM + P

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**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	603	1258	626	604	991	900	996	584	505	617	7684

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	171	1397	190	726	1187	141	326	548	83	191	339	825	6124

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1715	13	49	1425	9	52	3263

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	166	1360	44	134	1169	107	180	159	126	101	135	157	3838

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	27	9	21	26	7	9	11	427	19	17	417	17	1007

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	151	355	74	17	255	10	8	284	185	44	263	30	1676

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	468	438	113	376	169	72	1636

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	26	8	11	24	16	24	24	321	21	13	304	32	824

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	38	8	10	551	244	21	872

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	13	32	10	66	51	15	30	554	20	8	259	67	1125

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	575	1485	1236	650	436	5	577	4964

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1533	561	405	1237	594	2	350	4682

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	7	1892	2	40	1317	238	181	4	16	1	2	120	3820

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	118	1291	28	156	989	169	432	324	145	29	174	194	4049

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	160	1346	33	78	962	60	99	141	128	27	115	57	3206

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	129	1155	38	103	921	143	251	122	201	46	64	78	3251

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	52	1268	9	40	1061	30	65	23	34	18	21	15	2636

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	152	1165	16	55	1047	25	51	21	340	32	10	18	2932

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	990	190	242	1075	9	13	7	5	405	9	382	3336

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	16	479	435	788	648	23	30	51	15	304	86	618	3493

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	14	7	362	11	370	386	744	9	8	648	341	2913

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	84	949	84	9	1102	4	7	47	266	288	70	53	2963

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	21	954	207	110	1450	0	0	12	70	197	5	51	3077

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	206	330	1534	179	72	850	3171

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	498	64	831	656	129	767	2945

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	50	0	4	39	0	7	100

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume	
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
27	Laurel Ave/Driveway 2	0	42	0	4	35	0	0	0	0	0	0	0	8	89

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	38	11	2	33	0	0	0	0	5	0	4	93

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	4	582	484	0	8	1078	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	560	0	8	483	15	1066	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	11	556	11	0	481	2	4	0	22	23	0	0	1110



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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	7	8	4	553	248	4	824

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	33	47	47	8	0	135

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	21	4	0	25	8	0	58

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	25	7	0	32	0	0	0	0	14	0	0	78

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	8	0	0	596	265	4	873

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	8	114	105	0	0	15	242

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	6	122	120	0	0	12	260

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## Bloomington Business Park Specific Plan

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Scenario 10 OY PM + P

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**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.706	35.5	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.711	39.9	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.385	3.8	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.494	23.4	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.662	16.1	C
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	1.477	141.5	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	1.627	460.9	F
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	0.122	20.5	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.178	20.2	C
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	1.018	39.1	E
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	1.033	69.2	E
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	NB Thru	0.869	50.4	D
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.696	20.7	C
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Left	0.920	81.1	F
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.755	37.8	D
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Left	13.099	195.6	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	NB Left	0.490	9.7	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	NB Left	0.725	28.2	C
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	WB Left	0.984	56.1	E
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	SB Left	1.062	106.3	F
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	SB Left	0.978	37.3	D
22	Market St/24th St	Signalized	HCM 6th Edition	SB Thru	0.933	79.5	E
23	Market St/Rivera St	Signalized	HCM 6th Edition	NB Left	0.500	15.2	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.600	12.4	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.866	50.5	D
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.021	8.6	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	NB Thru	0.060	9.3	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.009	9.1	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.018	11.5	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.039	12.4	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.352	5.2	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.035	16.8	C
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.012	9.1	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.011	8.8	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.021	9.0	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.026	13.8	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.022	8.9	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.018	9.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	475	1171	571	592	946	882	976	0	525	479	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	131	70	44	0	30	0	0	0	57	16	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	157	0	0	225	0	0	148	0	0	154
Total Hourly Volume [veh/h]	616	1264	469	604	995	675	996	0	445	505	0	463
Peak Hour Factor	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	0.9910	1.0000	0.9910	0.9910	1.0000	0.9910
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	155	319	118	152	251	170	251	0	112	127	0	117
Total Analysis Volume [veh/h]	622	1275	473	609	1004	681	1005	0	449	510	0	467
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	30	32	0	30	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	42	22	41	35	35
g / C, Green / Cycle	0.20	0.38	0.20	0.38	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.18	0.25	0.17	0.19	0.29	0.15
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	700	1963	688	1946	1109	1109
d1, Uniform Delay [s]	42.81	28.08	42.97	26.54	36.05	30.11
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.09	1.68	4.02	0.98	3.16	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.89	0.65	0.88	0.52	0.91	0.46
d, Delay for Lane Group [s/veh]	46.90	29.76	46.99	27.52	39.21	30.41
Lane Group LOS	D	C	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.38	9.12	8.28	6.80	12.04	4.94
50th-Percentile Queue Length [ft/ln]	209.44	227.91	207.09	170.02	300.95	123.55
95th-Percentile Queue Length [veh/ln]	13.12	14.07	13.00	11.08	17.73	8.59
95th-Percentile Queue Length [ft/ln]	328.11	351.71	325.09	276.95	443.20	214.69

**Movement, Approach, & Intersection Results**

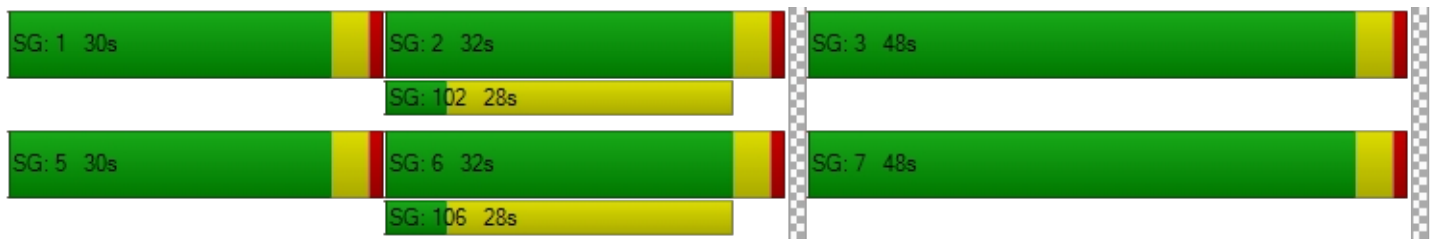
d_M, Delay for Movement [s/veh]	46.90	29.76	0.00	46.99	27.52	0.00	39.21	0.00	0.00	30.41	0.00	0.00
Movement LOS	D	C		D	C		D			C		
d_A, Approach Delay [s/veh]	35.38			34.87			39.21			30.41		
Approach LOS	D			C			D			C		
d_I, Intersection Delay [s/veh]	35.48											
Intersection LOS	D											
Intersection V/C	0.706											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	46.34	46.34
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	3.037	2.858
Crosswalk LOS	F	F	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	509	509	800	800
d_b, Bicycle Delay [s]	30.53	30.53	19.77	19.77
I_b,int, Bicycle LOS Score for Intersection	2.603	2.447	1.560	1.560
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	39.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	1262	183	675	1117	134	308	523	80	181	307	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	128	3	37	61	4	12	15	1	6	26	104
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	48	0	0	35	0	0	21	0	0	206
Total Hourly Volume [veh/h]	171	1415	142	726	1200	106	326	548	62	191	339	619
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	365	37	187	309	27	84	141	16	49	87	160
Total Analysis Volume [veh/h]	176	1459	146	748	1237	109	336	565	64	197	349	638
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	22	40	0	32	50	0	18	40	0	18	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	9	53	53	28	73	73	14	23	23	9	19	51
g / C, Green / Cycle	0.07	0.41	0.41	0.22	0.56	0.56	0.11	0.18	0.18	0.07	0.14	0.39
(v / s)_i Volume / Saturation Flow Rate	0.05	0.23	0.23	0.21	0.25	0.25	0.10	0.16	0.04	0.06	0.10	0.22
s, saturation flow rate [veh/h]	3514	5176	1788	3514	3618	1823	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	236	2127	735	757	2023	1019	380	644	288	255	516	1111
d1, Uniform Delay [s]	59.55	29.32	29.32	50.84	16.78	16.82	57.18	52.04	45.72	59.25	52.91	31.28
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.64	1.08	3.08	12.69	0.70	1.41	6.90	4.00	0.39	4.96	1.56	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.56	0.56	0.99	0.44	0.44	0.88	0.88	0.22	0.77	0.68	0.57
d, Delay for Lane Group [s/veh]	64.19	30.39	32.41	63.53	17.48	18.23	64.08	56.04	46.11	64.21	54.47	31.75
Lane Group LOS	E	C	C	E	B	B	E	E	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.92	9.24	9.99	13.21	7.64	7.98	5.69	9.10	1.77	3.28	5.36	7.58
50th-Percentile Queue Length [ft/ln]	73.06	230.97	249.78	330.28	191.09	199.49	142.16	227.54	44.28	81.90	134.02	189.56
95th-Percentile Queue Length [veh/ln]	5.26	14.22	15.18	19.17	12.18	12.61	9.60	14.05	3.19	5.90	9.16	12.10
95th-Percentile Queue Length [ft/ln]	131.51	355.59	379.38	479.30	304.45	315.31	239.94	351.24	79.71	147.42	228.94	302.45

**Movement, Approach, & Intersection Results**

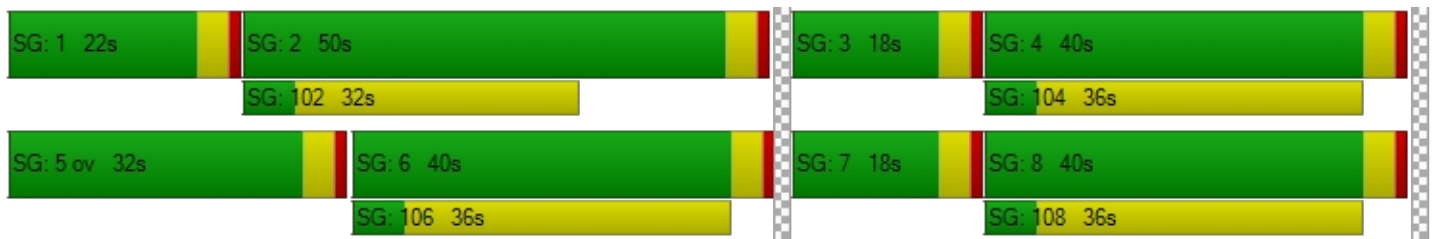
d_M, Delay for Movement [s/veh]	64.19	30.76	32.41	63.53	17.69	18.23	64.08	56.04	46.11	64.21	54.47	31.75
Movement LOS	E	C	C	E	B	B	E	E	D	E	D	C
d_A, Approach Delay [s/veh]	34.20			34.09			58.18			43.85		
Approach LOS	C			C			E			D		
d_I, Intersection Delay [s/veh]	39.90											
Intersection LOS	D											
Intersection V/C	0.711											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.32	56.32	56.32	56.32
I_p,int, Pedestrian LOS Score for Intersection	3.541	3.607	3.077	3.684
Crosswalk LOS	D	D	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	708	554	554
d_b, Bicycle Delay [s]	33.99	27.14	33.99	33.99
I_b,int, Bicycle LOS Score for Intersection	2.314	2.731	2.373	2.706
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	3.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.385

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1569	13	48	1343	9	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	133	0	0	67	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	3	0	0	0	13
Total Hourly Volume [veh/h]	1733	10	49	1437	9	39
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	447	3	13	370	2	10
Total Analysis Volume [veh/h]	1787	10	51	1481	9	40
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	49	0	9	58	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	76	76	4	83	4	4
g / C, Green / Cycle	0.80	0.80	0.04	0.88	0.04	0.04
(v / s)_i Volume / Saturation Flow Rate	0.35	0.01	0.01	0.29	0.00	0.02
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4117	1285	139	4539	70	63
d1, Uniform Delay [s]	3.04	2.00	44.47	1.01	44.12	45.01
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.01	1.62	0.19	0.82	10.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.01	0.37	0.33	0.13	0.64
d, Delay for Lane Group [s/veh]	3.37	2.01	46.09	1.20	44.93	55.36
Lane Group LOS	A	A	D	A	D	E
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.57	0.02	0.61	0.32	0.22	1.10
50th-Percentile Queue Length [ft/ln]	39.37	0.50	15.32	8.12	5.48	27.56
95th-Percentile Queue Length [veh/ln]	2.83	0.04	1.10	0.58	0.39	1.98
95th-Percentile Queue Length [ft/ln]	70.86	0.90	27.57	14.62	9.87	49.61

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.37	2.01	46.09	1.20	44.93	55.36
Movement LOS	A	A	D	A	D	E
d_A, Approach Delay [s/veh]	3.36		2.69		53.45	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.79					
Intersection LOS	A					
Intersection V/C	0.385					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	38.93	38.93
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.141	2.184
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	947	1137	695
d_b, Bicycle Delay [s]	13.16	8.85	20.23
I_b,int, Bicycle LOS Score for Intersection	2.550	2.402	1.560
Bicycle LOS	B	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	163	1298	43	104	1127	97	155	135	124	99	118	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	36	0	41	19	8	22	21	0	0	15	75
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	27	0	0	0	0	0	44
Total Hourly Volume [veh/h]	166	1360	44	147	1169	80	180	159	126	101	135	131
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	343	11	37	295	20	45	40	32	26	34	33
Total Analysis Volume [veh/h]	168	1374	44	148	1181	81	182	161	127	102	136	132
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	34	0	9	32	0	16	40	0	12	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	52	52	5	51	51	11	15	15	7	10	10
g / C, Green / Cycle	0.07	0.55	0.55	0.05	0.54	0.54	0.12	0.15	0.15	0.07	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.05	0.27	0.03	0.04	0.24	0.24	0.10	0.04	0.08	0.06	0.04	0.08
s, saturation flow rate [veh/h]	3459	5094	1589	3514	3560	1809	1810	3618	1589	1781	3618	1615
c, Capacity [veh/h]	239	2806	875	188	1906	968	217	557	245	131	389	174
d1, Uniform Delay [s]	43.33	13.15	9.88	44.49	13.44	13.44	40.97	35.64	37.01	43.33	39.38	41.27
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.74	0.61	0.11	7.08	0.74	1.45	8.34	0.28	1.70	9.58	0.54	6.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.49	0.05	0.79	0.44	0.44	0.84	0.29	0.52	0.78	0.35	0.76
d, Delay for Lane Group [s/veh]	47.07	13.76	9.98	51.57	14.17	14.88	49.31	35.92	38.71	52.91	39.91	47.94
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.04	5.77	0.43	1.89	5.31	5.59	4.63	1.66	2.80	2.69	1.49	3.30
50th-Percentile Queue Length [ft/ln]	51.03	144.25	10.78	47.36	132.80	139.73	115.63	41.55	70.07	67.14	37.29	82.43
95th-Percentile Queue Length [veh/ln]	3.67	9.71	0.78	3.41	9.09	9.47	8.15	2.99	5.05	4.83	2.68	5.94
95th-Percentile Queue Length [ft/ln]	91.86	242.74	19.41	85.24	227.29	236.67	203.81	74.80	126.13	120.85	67.12	148.38

**Movement, Approach, & Intersection Results**

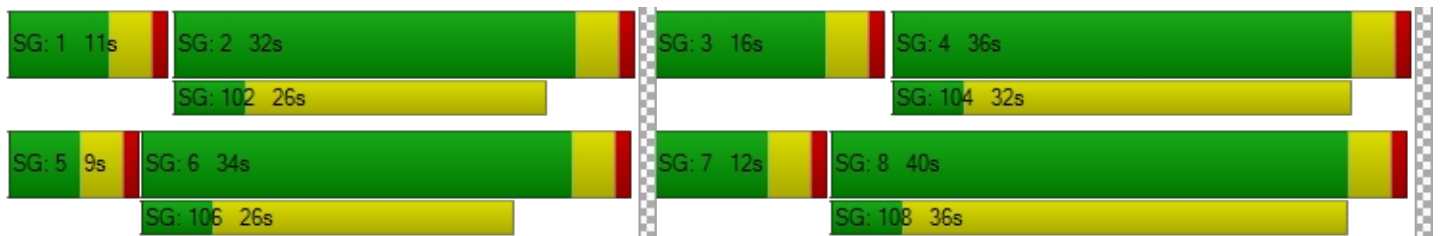
d_M, Delay for Movement [s/veh]	47.07	13.76	9.98	51.57	14.38	14.88	49.31	35.92	38.71	52.91	39.91	47.94
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	17.19			18.31			41.86			46.36		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	23.44											
Intersection LOS	C											
Intersection V/C	0.494											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.97	38.97	38.97	38.97
I_p,int, Pedestrian LOS Score for Intersection	3.178	3.154	2.600	2.644
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	631	589	757	673
d_b, Bicycle Delay [s]	22.27	23.66	18.36	20.92
I_b,int, Bicycle LOS Score for Intersection	2.432	2.350	1.947	1.901
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.662

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	6	25	7	9	11	360	6	9	305	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	20	0	0	0	0	67	20	11	117	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	9	26	26	7	9	11	434	26	20	428	17
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	2	7	7	2	2	3	113	7	5	111	4
Total Analysis Volume [veh/h]	39	9	27	27	7	9	11	452	27	21	445	18
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	582	563	740	737
Degree of Utilization, x	0.13	0.08	0.66	0.66

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.44	0.25	5.06	4.96
95th-Percentile Queue Length [ft]	11.02	6.18	126.56	124.08
Approach Delay [s/veh]	10.10	9.93	16.87	16.73
Approach LOS	B	A	C	C
Intersection Delay [s/veh]	16.07			
Intersection LOS	C			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	141.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.477

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	56	84	10	0	31	0	0	63	24	6	72	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	157	358	77	17	257	10	8	293	189	46	271	30
Peak Hour Factor	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660	0.9660
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	93	20	4	67	3	2	76	49	12	70	8
Total Analysis Volume [veh/h]	163	371	80	18	266	10	8	303	196	48	281	31
Pedestrian Volume [ped/h]	0			0			0			0		

Version 2021 (SP 0-2)

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	614	389	507	404
Degree of Utilization, x	1.48	0.76	1.19	0.89

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	31.99	6.14	19.78	9.18
95th-Percentile Queue Length [ft]	799.83	153.60	494.60	229.51
Approach Delay [s/veh]	250.54	35.99	134.40	51.92
Approach LOS	F	E	F	F
Intersection Delay [s/veh]	141.54			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	460.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.627

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	352	154	59	326	40	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	2.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	111	282	66	45	130	35
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	470	439	126	378	171	82
Peak Hour Factor	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	127	118	34	102	46	22
Total Analysis Volume [veh/h]	506	473	136	407	184	88
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.19	0.00	1.63	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	11.23	0.00	460.94	437.71
Movement LOS	A	A	B	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.70	0.70	20.47	20.47
95th-Percentile Queue Length [ft/ln]	0.00	0.00	17.51	17.51	511.87	511.87
d_A, Approach Delay [s/veh]	0.00		2.81		453.43	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	69.60					
Intersection LOS	F					



**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.122

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	11	8	11	13	16	21	16	269	13	13	249	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	0	11	0	3	8	55	11	0	55	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	8	11	24	16	24	24	329	24	13	309	32
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	2	3	6	4	6	6	87	6	3	82	8
Total Analysis Volume [veh/h]	33	8	12	25	17	25	25	349	25	14	328	34
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.03	0.02	0.09	0.06	0.04	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	20.48	18.94	12.44	19.57	18.71	12.17	8.04	0.00	0.00	8.05	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.58	0.58	0.58	0.64	0.64	0.64	0.06	0.06	0.06	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	14.59	14.59	14.59	15.93	15.93	15.93	1.58	1.58	1.58	0.89	0.89	0.89
d_A, Approach Delay [s/veh]	18.43			16.59			0.50			0.30		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	2.68											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	20.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.178

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	13	8	10	210	93	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	33	0	0	352	161	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	46	8	10	566	256	27
Peak Hour Factor	0.8990	0.8990	0.8990	0.8990	0.8990	0.8990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	2	3	157	71	8
Total Analysis Volume [veh/h]	51	9	11	630	285	30
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.18	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	20.23	12.50	7.89	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.69	0.69	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	17.24	17.24	0.66	0.66	0.00	0.00
d_A, Approach Delay [s/veh]	19.07		0.14		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.21					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	39.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.018

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	36	0	0	0	395	0	0	183	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	32	10	75	51	15	30	579	20	8	277	73
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	20	13	4	8	152	5	2	73	19
Total Analysis Volume [veh/h]	14	34	10	79	53	16	31	606	21	8	290	76
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	525	542	637	717	600	680
Degree of Utilization, x	0.11	0.27	1.02	0.03	0.50	0.11

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.37	1.10	16.19	0.09	2.76	0.38
95th-Percentile Queue Length [ft]	9.26	27.54	404.66	2.26	69.05	9.39
Approach Delay [s/veh]	10.71	12.11	62.29		13.30	
Approach LOS	B	B	F		B	
Intersection Delay [s/veh]	39.07					
Intersection LOS	E					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	69.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.033

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	←			→						+		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	247	113	0	0	52	0	0	0	0	91	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	163	0	0	0	0	0	144
Total Hourly Volume [veh/h]	584	1488	0	0	1239	487	0	0	0	444	5	433
Peak Hour Factor	0.9320	0.9320	1.0000	1.0000	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	157	399	0	0	332	131	0	0	0	119	1	116
Total Analysis Volume [veh/h]	627	1597	0	0	1329	523	0	0	0	476	5	465
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	26	55	0	0	29	0	0	0	0	0	25	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	80	80	80	80		80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	22	51	25	25		21	21
g / C, Green / Cycle	0.28	0.64	0.31	0.31		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.39	0.47	0.27	0.34		0.28	0.30
s, saturation flow rate [veh/h]	1619	3427	4903	1530		1715	1530
c, Capacity [veh/h]	446	2184	1531	478		451	402
d1, Uniform Delay [s]	29.05	9.87	26.01	27.57		29.55	29.55
k, delay calibration	0.48	0.50	0.50	0.50		0.27	0.31
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	195.73	2.20	6.92	69.30		50.47	87.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.41	0.73	0.87	1.09		1.07	1.16
d, Delay for Lane Group [s/veh]	224.78	12.07	32.92	96.86		80.02	116.67
Lane Group LOS	F	B	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	32.36	8.41	8.52	17.82		14.59	17.11
50th-Percentile Queue Length [ft/ln]	809.10	210.36	213.09	445.57		364.63	427.63
95th-Percentile Queue Length [veh/ln]	49.65	13.17	13.31	26.16		21.64	25.88
95th-Percentile Queue Length [ft/ln]	1241.29	329.30	332.79	653.97		541.11	647.12

**Movement, Approach, & Intersection Results**

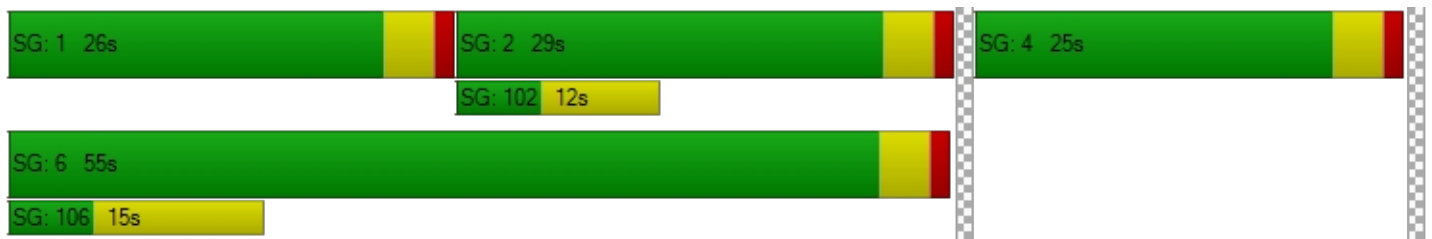
d_M, Delay for Movement [s/veh]	224.78	12.07	0.00	0.00	32.92	96.86	0.00	0.00	0.00	80.02	80.02	116.67
Movement LOS	F	B			C	F				F	F	F
d_A, Approach Delay [s/veh]	72.04			50.98			0.00			98.04		
Approach LOS	E			D			A			F		
d_I, Intersection Delay [s/veh]	69.17											
Intersection LOS	E											
Intersection V/C	1.033											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			31.55			31.55		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.353			2.495		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1274			624			0			524		
d_b, Bicycle Delay [s]	5.28			18.95			40.04			21.80		
I_b,int, Bicycle LOS Score for Intersection	3.394			2.668			4.132			3.358		
Bicycle LOS	C			B			D			C		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	50.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1162	352	397	1083	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	360	214	0	143	0	0	0	114	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	0	0	0	89	0	0	0
Total Hourly Volume [veh/h]	0	1545	430	405	1248	0	594	2	267	0	0	0
Peak Hour Factor	1.0000	0.9660	0.9660	0.9660	0.9660	1.0000	0.9660	0.9660	0.9660	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	400	111	105	323	0	154	1	69	0	0	0
Total Analysis Volume [veh/h]	0	1599	445	419	1292	0	615	2	276	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	25	0	22	47	0	0	23	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	21	21	18	43	19	19	
g / C, Green / Cycle	0.30	0.30	0.26	0.61	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.33	0.29	0.26	0.38	0.27	0.28	
s, saturation flow rate [veh/h]	4903	1530	1619	3427	1619	1598	
c, Capacity [veh/h]	1471	459	417	2106	440	434	
d1, Uniform Delay [s]	24.59	24.27	26.08	8.38	25.56	25.58	
k, delay calibration	0.50	0.50	0.16	0.50	0.18	0.21	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	51.02	35.12	26.20	1.35	25.33	40.64	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.09	0.97	1.00	0.61	1.00	1.05	
d, Delay for Lane Group [s/veh]	75.61	59.39	52.28	9.73	50.89	66.22	
Lane Group LOS	F	E	F	A	D	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	14.48	11.22	9.54	5.19	9.90	11.64	
50th-Percentile Queue Length [ft/ln]	361.90	280.58	238.51	129.81	247.49	290.94	
95th-Percentile Queue Length [veh/ln]	21.77	16.72	14.65	8.93	15.06	17.69	
95th-Percentile Queue Length [ft/ln]	544.21	417.93	366.13	223.23	376.49	442.15	

**Movement, Approach, & Intersection Results**

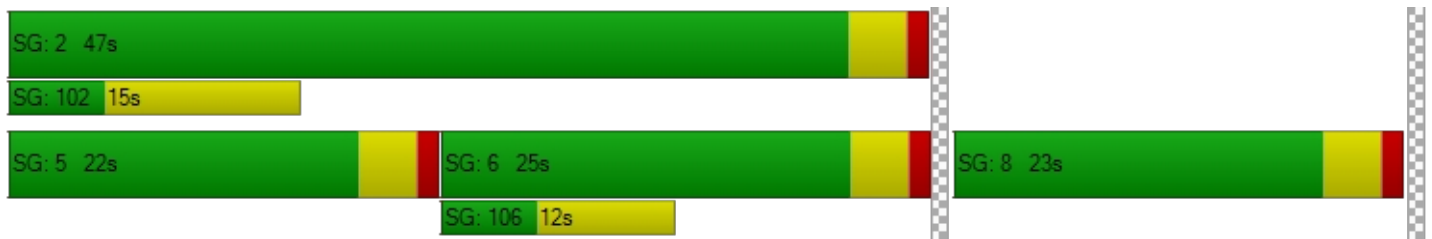
d_M, Delay for Movement [s/veh]	0.00	75.61	59.39	52.28	9.73	0.00	55.20	66.22	66.22	0.00	0.00	0.00
Movement LOS		F	E	F	A		E	E	E			
d_A, Approach Delay [s/veh]		72.08		20.15			58.69			0.00		
Approach LOS		E		C			E			A		
d_I, Intersection Delay [s/veh]	50.39											
Intersection LOS	D											
Intersection V/C	0.869											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	26.64	26.64
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.375	2.196
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	599	1226	542	0
d_b, Bicycle Delay [s]	17.21	5.25	18.64	35.06
I_b,int, Bicycle LOS Score for Intersection	2.762	2.971	3.180	4.132
Bicycle LOS	C	C	C	D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.696

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	1316	2	39	1056	233	177	4	16	1	2	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	575	0	0	257	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	30
Total Hourly Volume [veh/h]	7	1917	1	40	1334	238	181	4	16	1	2	90
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	490	0	10	341	61	46	1	4	0	1	23
Total Analysis Volume [veh/h]	7	1960	1	41	1364	243	185	4	16	1	2	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	33	40	0	0	36	0	0	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	52	52	59	55	55	18	18	18
g / C, Green / Cycle	0.70	0.62	0.62	0.70	0.64	0.64	0.21	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.02	0.54	0.54	0.12	0.40	0.16	0.14	0.01	0.06
s, saturation flow rate [veh/h]	455	1800	1800	349	3427	1506	1302	1552	1470
c, Capacity [veh/h]	329	1082	1082	248	2155	947	277	343	368
d1, Uniform Delay [s]	7.22	14.84	14.84	17.40	9.73	6.98	32.11	26.13	27.52
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	12.38	12.40	1.43	1.43	0.65	2.78	0.07	0.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.02	0.91	0.91	0.17	0.63	0.26	0.67	0.06	0.26
d, Delay for Lane Group [s/veh]	7.24	27.22	27.24	18.83	11.15	7.64	34.88	26.20	27.89
Lane Group LOS	A	C	C	B	B	A	C	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.03	17.05	17.06	0.28	6.70	1.78	3.79	0.33	1.64
50th-Percentile Queue Length [ft/ln]	0.80	426.33	426.52	6.90	167.58	44.44	94.72	8.19	41.10
95th-Percentile Queue Length [veh/ln]	0.06	23.83	23.83	0.50	10.95	3.20	6.82	0.59	2.96
95th-Percentile Queue Length [ft/ln]	1.44	595.65	595.87	12.42	273.73	79.98	170.50	14.75	73.98

**Movement, Approach, & Intersection Results**

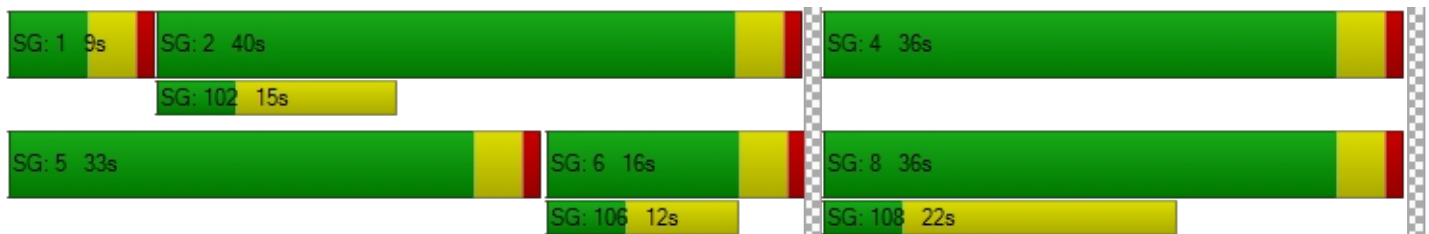
d_M, Delay for Movement [s/veh]	7.24	27.23	27.24	18.83	11.15	7.64	34.88	26.20	26.20	27.89	27.89	27.89
Movement LOS	A	C	C	B	B	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	27.16			10.83			34.04			27.89		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	20.66											
Intersection LOS	C											
Intersection V/C	0.696											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	33.98	0.00	33.98	33.98
I_p,int, Pedestrian LOS Score for Intersection	2.955	0.000	2.094	1.877
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	282	847	753	753
d_b, Bicycle Delay [s]	31.35	14.12	16.52	16.52
I_b,int, Bicycle LOS Score for Intersection	3.184	2.919	1.898	1.766
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	81.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.920

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	404	1	9	190	59	154	11	19	3	10	22
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	1315	28	156	1007	169	432	324	145	29	174	194
Peak Hour Factor	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550	0.9550
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	344	7	41	264	44	113	85	38	8	46	51
Total Analysis Volume [veh/h]	124	1377	29	163	1054	177	452	339	152	30	182	203
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	13	33	0	27	45	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	36	36	9	39	39	23	36	36	3	16	16
g / C, Green / Cycle	0.06	0.36	0.36	0.09	0.39	0.39	0.23	0.36	0.36	0.03	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.40	0.40	0.10	0.35	0.36	0.28	0.10	0.10	0.02	0.10	0.13
s, saturation flow rate [veh/h]	1593	1772	1759	1593	1772	1684	1593	3373	1506	1593	1772	1506
c, Capacity [veh/h]	97	638	633	145	691	657	366	1214	542	47	283	240
d1, Uniform Delay [s]	47.02	32.04	32.04	45.53	28.87	29.02	38.56	22.80	22.81	48.07	39.42	40.89
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.41	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	141.75	67.79	68.85	75.62	18.10	19.90	123.32	0.12	0.28	13.53	2.45	7.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.28	1.10	1.11	1.13	0.91	0.92	1.23	0.28	0.28	0.64	0.64	0.85
d, Delay for Lane Group [s/veh]	188.77	99.83	100.89	121.15	46.98	48.92	161.88	22.93	23.09	61.60	41.88	48.83
Lane Group LOS	F	F	F	F	D	D	F	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.22	26.85	26.85	6.60	17.15	16.82	21.36	2.83	2.56	0.91	4.35	5.34
50th-Percentile Queue Length [ft/ln]	155.42	671.34	671.14	164.90	428.84	420.62	534.12	70.72	64.03	22.84	108.73	133.45
95th-Percentile Queue Length [veh/ln]	11.02	37.80	37.85	11.26	23.95	23.55	32.26	5.09	4.61	1.64	7.77	9.13
95th-Percentile Queue Length [ft/ln]	275.42	944.99	946.13	281.57	598.65	588.79	806.55	127.30	115.26	41.12	194.23	228.17

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	188.77	100.35	100.89	121.15	47.76	48.92	161.88	22.93	23.09	61.60	41.88	48.83
Movement LOS	F	F	F	F	D	D	F	C	C	E	D	D
d_A, Approach Delay [s/veh]	107.52			56.49			89.56			46.70		
Approach LOS	F			E			F			D		
d_I, Intersection Delay [s/veh]	81.06											
Intersection LOS	F											
Intersection V/C	0.920											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.44	41.44	41.44	41.44
I_p,int, Pedestrian LOS Score for Intersection	2.846	3.016	2.799	2.613
Crosswalk LOS	C	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	580	819	520
d_b, Bicycle Delay [s]	27.41	25.24	17.43	27.41
I_b,int, Bicycle LOS Score for Intersection	2.822	2.710	2.338	1.902
Bicycle LOS	C	B	B	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	37.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	110	927	32	76	759	47	75	135	93	26	112	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	48	417	0	0	201	17	30	3	33	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	1363	33	78	975	65	107	141	128	27	115	57
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	375	9	21	268	18	29	39	35	7	32	16
Total Analysis Volume [veh/h]	176	1501	36	86	1074	72	118	155	141	30	127	63
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	16	0	18	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	26	26	4	24	24	18	18
g / C, Green / Cycle	0.10	0.44	0.44	0.07	0.41	0.41	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.11	0.43	0.44	0.05	0.33	0.33	0.26	0.13
s, saturation flow rate [veh/h]	1593	1772	1757	1593	1772	1733	1564	1648
c, Capacity [veh/h]	161	775	768	110	718	702	537	553
d1, Uniform Delay [s]	27.04	16.85	16.91	27.55	15.81	15.82	20.15	17.20
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	60.32	30.91	32.16	11.19	9.43	9.69	2.38	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.09	0.99	1.00	0.78	0.81	0.81	0.77	0.40
d, Delay for Lane Group [s/veh]	87.36	47.76	49.07	38.73	25.24	25.51	22.54	17.66
Lane Group LOS	F	D	D	D	C	C	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.88	15.49	15.71	1.49	7.93	7.82	5.32	2.20
50th-Percentile Queue Length [ft/ln]	122.05	387.30	392.65	37.36	198.28	195.53	133.12	55.07
95th-Percentile Queue Length [veh/ln]	8.76	21.95	22.21	2.69	12.55	12.41	9.11	3.96
95th-Percentile Queue Length [ft/ln]	219.04	548.67	555.13	67.25	313.74	310.19	227.73	99.12

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	87.36	48.40	49.07	38.73	25.37	25.51	22.54	22.54	22.54	17.66	17.66	17.66
Movement LOS	F	D	D	D	C	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	52.42			26.31			22.54			17.66		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	37.84											
Intersection LOS	D											
Intersection V/C	0.755											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.900	3.017	2.080	2.019
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	399	666	732	732
d_b, Bicycle Delay [s]	19.24	13.37	12.07	12.07
I_b,int, Bicycle LOS Score for Intersection	2.973	2.576	2.243	1.923
Bicycle LOS	C	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	195.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	13.099

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	80	239	0	0	127	108	228	33	169	0	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	10	0	0	0	0	0	54	0	0	0
Total Hourly Volume [veh/h]	139	1155	28	103	921	156	268	124	162	46	65	78
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	306	7	27	244	41	71	33	43	12	17	21
Total Analysis Volume [veh/h]	147	1224	30	109	976	165	284	131	172	49	69	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	25	0	9	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	21	21	5	21	21	22	22	22	22
g / C, Green / Cycle	0.08	0.35	0.35	0.08	0.35	0.35	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.09	0.36	0.36	0.07	0.33	0.33	12.67	0.11	0.50	0.06
s, saturation flow rate [veh/h]	1619	1772	1757	1593	1772	1684	33	1530	236	1506
c, Capacity [veh/h]	139	619	614	137	619	588	112	560	171	551
d1, Uniform Delay [s]	27.57	19.63	19.63	27.04	19.05	19.09	28.85	13.67	16.06	12.84
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.46	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	50.59	40.46	41.06	9.89	24.69	26.19	1231.79	0.31	18.92	0.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.05	1.02	1.02	0.79	0.94	0.95	3.69	0.31	0.69	0.15
d, Delay for Lane Group [s/veh]	78.16	60.09	60.68	36.93	43.74	45.28	1260.65	13.98	34.98	12.97
Lane Group LOS	F	F	F	D	D	D	F	B	C	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.85	14.55	14.53	1.83	11.20	10.93	40.04	1.54	1.87	0.70
50th-Percentile Queue Length [ft/ln]	96.33	363.66	363.14	45.73	279.93	273.18	1001.09	38.54	46.76	17.41
95th-Percentile Queue Length [veh/ln]	6.94	21.03	21.03	3.29	16.69	16.35	69.75	2.77	3.37	1.25
95th-Percentile Queue Length [ft/ln]	173.39	525.77	525.69	82.31	417.13	408.71	1743.83	69.37	84.18	31.33

**Movement, Approach, & Intersection Results**

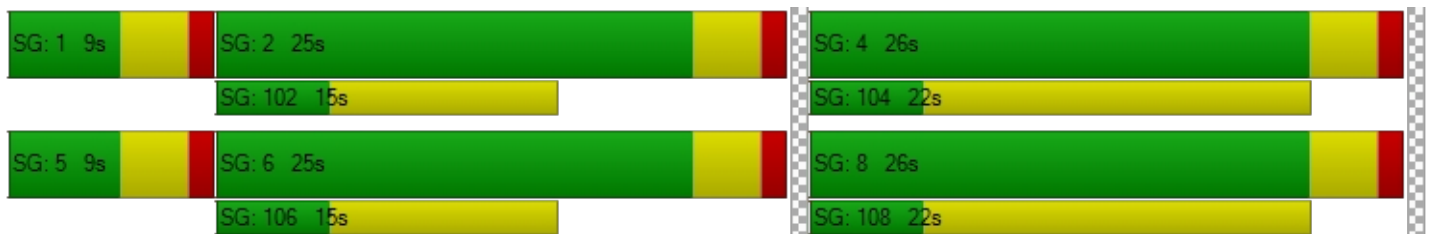
d_M, Delay for Movement [s/veh]	78.16	60.38	60.68	36.93	44.36	45.28	1260.65	1260.65	13.98	34.98	34.98	12.97
Movement LOS	F	E	E	D	D	D	F	F	B	C	C	B
d_A, Approach Delay [s/veh]	62.25			43.83			895.36			25.89		
Approach LOS	E			D			F			C		
d_I, Intersection Delay [s/veh]	195.63											
Intersection LOS	F											
Intersection V/C	13.099											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.76			21.76			21.76			21.76		
I_p,int, Pedestrian LOS Score for Intersection	2.884			3.239			2.330			2.077		
Crosswalk LOS	C			C			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	698			698			731			731		
d_b, Bicycle Delay [s]	12.75			12.75			12.10			12.10		
I_b,int, Bicycle LOS Score for Intersection	2.724			2.591			2.617			1.891		
Bicycle LOS	B			B			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	51	941	9	39	767	27	63	23	33	18	21	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	319	0	0	294	2	1	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	8	0	0	9	0	0	4
Total Hourly Volume [veh/h]	52	1279	7	40	1076	22	65	23	25	18	21	11
Peak Hour Factor	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210	0.9210
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	347	2	11	292	6	18	6	7	5	6	3
Total Analysis Volume [veh/h]	56	1389	8	43	1168	24	71	25	27	20	23	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	40	40	3	39	39	6	6
g / C, Green / Cycle	0.05	0.66	0.66	0.04	0.65	0.65	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.03	0.39	0.39	0.03	0.33	0.33	0.07	0.03
s, saturation flow rate [veh/h]	1619	1800	1796	1619	1800	1787	1648	1753
c, Capacity [veh/h]	84	1190	1188	71	1176	1167	252	249
d1, Uniform Delay [s]	27.98	5.64	5.64	28.22	5.41	5.41	26.45	25.39
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.87	2.13	2.14	8.09	1.57	1.59	1.47	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.67	0.59	0.59	0.61	0.51	0.51	0.49	0.22
d, Delay for Lane Group [s/veh]	36.85	7.77	7.78	36.31	6.98	7.00	27.92	25.83
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.96	3.84	3.83	0.74	3.09	3.07	1.72	0.72
50th-Percentile Queue Length [ft/ln]	23.92	95.93	95.86	18.42	77.18	76.79	42.99	18.12
95th-Percentile Queue Length [veh/ln]	1.72	6.91	6.90	1.33	5.56	5.53	3.10	1.30
95th-Percentile Queue Length [ft/ln]	43.06	172.68	172.55	33.16	138.92	138.21	77.38	32.62



**Movement, Approach, & Intersection Results**

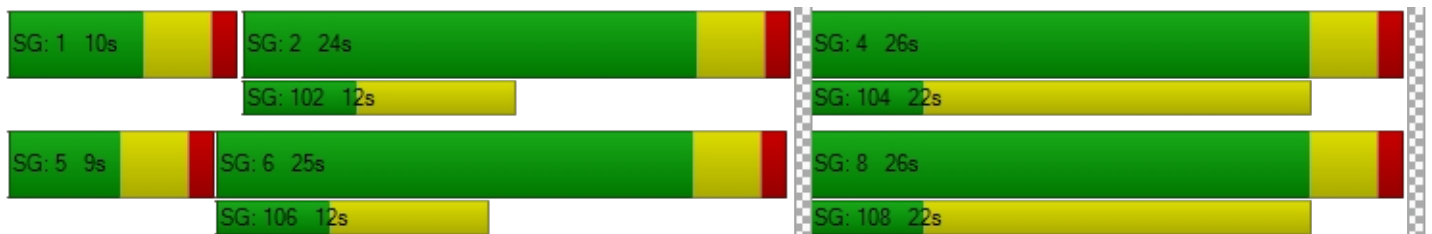
d_M, Delay for Movement [s/veh]	36.85	7.78	7.78	36.31	6.99	7.00	27.92	27.92	27.92	25.83	25.83	25.83
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	8.90			8.01			27.92			25.83		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.66											
Intersection LOS	A											
Intersection V/C	0.490											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.834			2.923			1.827			1.768		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			666			733			733		
d_b, Bicycle Delay [s]	12.69			13.35			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.760			2.585			1.777			1.657		
Bicycle LOS	C			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	105	845	14	52	766	14	45	21	284	29	10	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	311	2	2	278	14	7	0	50	2	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	0	0	0	0	0	0	5
Total Hourly Volume [veh/h]	152	1173	12	55	1059	28	53	21	340	32	10	13
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	316	3	15	286	8	14	6	92	9	3	4
Total Analysis Volume [veh/h]	164	1265	13	59	1142	30	57	23	367	35	11	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	29	0	10	28	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	29	29	3	25	25	21	21
g / C, Green / Cycle	0.11	0.44	0.44	0.05	0.39	0.39	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.10	0.36	0.36	0.04	0.33	0.33	0.29	0.08
s, saturation flow rate [veh/h]	1593	1800	1794	1619	1800	1784	1516	727
c, Capacity [veh/h]	173	798	795	85	696	690	548	320
d1, Uniform Delay [s]	28.84	15.66	15.67	30.36	18.20	18.20	21.27	15.62
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.19	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.00	8.35	8.41	9.83	12.04	12.17	5.13	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.95	0.80	0.80	0.70	0.85	0.85	0.82	0.19
d, Delay for Lane Group [s/veh]	49.84	24.02	24.08	40.18	30.24	30.38	26.41	15.90
Lane Group LOS	D	C	C	D	C	C	C	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.43	8.95	8.94	1.10	9.48	9.43	6.74	0.61
50th-Percentile Queue Length [ft/ln]	85.78	223.85	223.60	27.61	237.05	235.73	168.45	15.26
95th-Percentile Queue Length [veh/ln]	6.18	13.86	13.85	1.99	14.53	14.46	11.00	1.10
95th-Percentile Queue Length [ft/ln]	154.40	346.54	346.22	49.70	363.30	361.62	274.88	27.47

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.84	24.05	24.08	40.18	30.31	30.38	26.41	26.41	26.41	15.90	15.90	15.90
Movement LOS	D	C	C	D	C	C	C	C	C	B	B	B
d_A, Approach Delay [s/veh]	26.98			30.78			26.41			15.90		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	28.16											
Intersection LOS	C											
Intersection V/C	0.725											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	24.16	24.16	24.16	24.16
I_p,int, Pedestrian LOS Score for Intersection	2.923	2.867	2.018	1.787
Crosswalk LOS	C	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	768	738	676	676
d_b, Bicycle Delay [s]	12.34	12.96	14.26	14.26
I_b,int, Bicycle LOS Score for Intersection	2.753	2.575	2.297	1.667
Bicycle LOS	C	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	56.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.984

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	822	124	153	826	9	13	7	5	219	9	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	161	64	86	244	0	0	0	0	182	0	197
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	48	0	0	2	0	0	1	0	0	96
Total Hourly Volume [veh/h]	9	999	142	242	1087	7	13	7	4	405	9	286
Peak Hour Factor	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950	0.8950
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	279	40	68	304	2	4	2	1	113	3	80
Total Analysis Volume [veh/h]	10	1116	159	270	1215	8	15	8	4	453	10	320
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	20	44	0	15	39	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	40	40	11	50	50	22	22	22
g / C, Green / Cycle	0.01	0.47	0.47	0.13	0.59	0.59	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.01	0.36	0.36	0.17	0.34	0.34	0.21	0.45	0.21
s, saturation flow rate [veh/h]	1619	1800	1723	1619	1800	1796	128	1018	1530
c, Capacity [veh/h]	22	846	809	211	1055	1053	99	347	396
d1, Uniform Delay [s]	41.63	18.72	18.77	37.00	11.04	11.04	26.17	34.18	29.53
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.16	0.50	0.15
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.51	6.65	7.06	134.37	2.33	2.34	2.11	168.09	5.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.77	0.77	1.28	0.58	0.58	0.27	1.33	0.81
d, Delay for Lane Group [s/veh]	55.14	25.37	25.82	171.36	13.36	13.38	28.29	202.28	34.98
Lane Group LOS	E	C	C	F	B	B	C	F	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.29	11.36	11.03	12.15	7.06	7.05	0.46	23.43	6.52
50th-Percentile Queue Length [ft/ln]	7.23	284.07	275.75	303.72	176.39	176.21	11.48	585.74	162.89
95th-Percentile Queue Length [veh/ln]	0.52	16.89	16.48	19.66	11.41	11.40	0.83	36.29	10.70
95th-Percentile Queue Length [ft/ln]	13.01	422.28	411.92	491.60	285.29	285.05	20.66	907.26	267.55

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	55.14	25.56	25.82	171.36	13.37	13.38	28.29	28.29	28.29	202.28	202.28	34.98
Movement LOS	E	C	C	F	B	B	C	C	C	F	F	C
d_A, Approach Delay [s/veh]	25.82			41.94			28.29			133.91		
Approach LOS	C			D			C			F		
d_I, Intersection Delay [s/veh]	56.13											
Intersection LOS	E											
Intersection V/C	0.984											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	33.99	33.99	33.99
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.916	1.743	2.519
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	823	517	517
d_b, Bicycle Delay [s]	11.92	14.72	23.36	23.36
I_b,int, Bicycle LOS Score for Intersection	2.659	2.793	1.606	3.010
Bicycle LOS	B	C	A	C

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	106.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.062

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	136	31	252	174	0	0	0	0	70	0	88
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	6	0	0	0	0	0	156
Total Hourly Volume [veh/h]	16	481	435	797	651	17	30	51	15	304	86	468
Peak Hour Factor	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080	0.9080
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	132	120	219	179	5	8	14	4	84	24	129
Total Analysis Volume [veh/h]	18	530	479	878	717	19	33	56	17	335	95	515
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	135
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	70	39	0	55	24	0	0	9	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	135	135	135	135	135	135	135	135	135
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	35	35	51	84	84	5	5	28
g / C, Green / Cycle	0.02	0.26	0.26	0.38	0.62	0.62	0.04	0.04	0.21
(v / s)_i Volume / Saturation Flow Rate	0.01	0.15	0.30	0.49	0.20	0.01	0.02	0.04	0.24
s, saturation flow rate [veh/h]	1781	3560	1589	1810	3560	1615	1810	1825	1829
c, Capacity [veh/h]	33	927	414	682	2203	999	67	68	379
d1, Uniform Delay [s]	65.71	43.40	49.93	42.07	12.29	9.94	63.75	65.00	53.50
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.49
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.60	2.56	94.91	140.50	0.39	0.03	5.48	73.50	87.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.55	0.57	1.16	1.29	0.33	0.02	0.49	1.08	1.13
d, Delay for Lane Group [s/veh]	79.31	45.96	144.84	182.57	12.69	9.97	69.23	138.50	140.95
Lane Group LOS	E	D	F	F	B	A	E	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.74	8.07	24.82	48.99	5.24	0.23	1.22	3.72	22.06
50th-Percentile Queue Length [ft/ln]	18.52	201.85	620.46	1224.75	131.10	5.73	30.47	92.90	551.47
95th-Percentile Queue Length [veh/ln]	1.33	12.73	35.90	70.98	9.00	0.41	2.19	6.69	31.84
95th-Percentile Queue Length [ft/ln]	33.33	318.36	897.45	1774.38	224.98	10.31	54.85	167.22	796.03

**Movement, Approach, & Intersection Results**

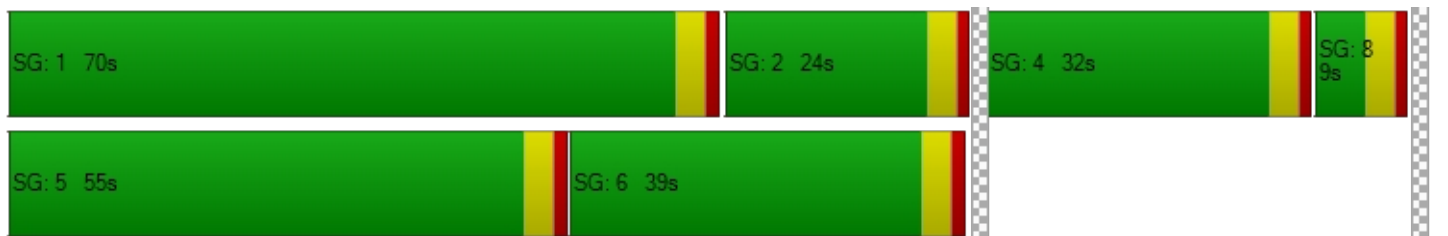
d_M, Delay for Movement [s/veh]	79.31	45.96	144.84	182.57	12.69	9.97	69.23	138.50	138.50	140.95	140.95	0.00
Movement LOS	E	D	F	F	B	A	E	F	F	F	F	
d_A, Approach Delay [s/veh]	92.66			105.07			116.93			140.95		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	106.31											
Intersection LOS	F											
Intersection V/C	1.062											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	519			296			74			415		
d_b, Bicycle Delay [s]	37.04			48.98			62.59			42.40		
I_b,int, Bicycle LOS Score for Intersection	2.407			2.896			1.735			2.269		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	37.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	14	7	181	11	293	339	499	9	8	556	266
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	177	0	71	40	244	0	0	88	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	2	0	0	0
Total Hourly Volume [veh/h]	13	14	7	362	11	370	386	753	7	8	655	341
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	2	96	3	98	103	200	2	2	174	91
Total Analysis Volume [veh/h]	14	15	7	385	12	393	410	800	7	9	696	362
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	24	35	0	10	21	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	26	26	19	36	36	1	18	18
g / C, Green / Cycle	0.35	0.35	0.35	0.25	0.48	0.48	0.01	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.17	0.52	0.25	0.23	0.22	0.00	0.01	0.20	0.23
s, saturation flow rate [veh/h]	218	763	1589	1781	3560	1615	1781	3560	1589
c, Capacity [veh/h]	143	361	555	450	1707	774	21	849	379
d1, Uniform Delay [s]	19.76	27.87	21.13	27.22	13.11	10.21	36.82	27.04	28.17
k, delay calibration	0.50	0.50	0.50	0.14	0.11	0.11	0.11	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.20	77.18	7.47	9.28	0.20	0.00	13.17	2.03	15.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.25	1.10	0.71	0.91	0.47	0.01	0.43	0.82	0.95
d, Delay for Lane Group [s/veh]	23.97	105.05	28.60	36.50	13.32	10.22	49.99	29.06	43.53
Lane Group LOS	C	F	C	D	B	B	D	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.56	14.21	6.74	7.92	4.14	0.06	0.24	5.85	7.69
50th-Percentile Queue Length [ft/ln]	13.99	355.30	168.47	197.97	103.61	1.42	5.93	146.14	192.36
95th-Percentile Queue Length [veh/ln]	1.01	21.63	11.00	12.53	7.46	0.10	0.43	9.81	12.24
95th-Percentile Queue Length [ft/ln]	25.19	540.68	274.90	313.35	186.50	2.56	10.67	245.27	306.08

**Movement, Approach, & Intersection Results**

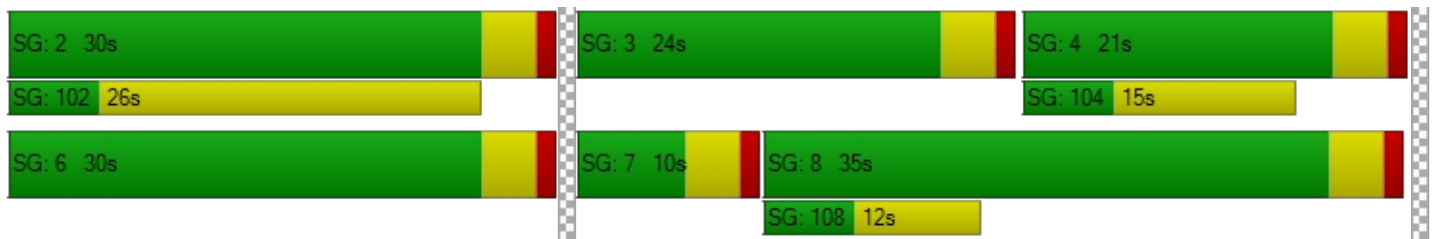
d_M, Delay for Movement [s/veh]	23.97	23.97	23.97	105.05	105.05	28.60	36.50	13.32	10.22	49.99	29.06	43.53
Movement LOS	C	C	C	F	F	C	D	B	B	D	C	D
d_A, Approach Delay [s/veh]	23.97			67.02			21.11			34.15		
Approach LOS	C			E			C			C		
d_I, Intersection Delay [s/veh]	37.28											
Intersection LOS	D											
Intersection V/C	0.978											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.05	29.05	29.05	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.739	2.445	2.845	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	827	453
d_b, Bicycle Delay [s]	16.01	16.01	12.91	22.43
I_b,int, Bicycle LOS Score for Intersection	1.619	2.863	2.565	2.440
Bicycle LOS	A	C	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	79.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.933

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	0.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00	0.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	155	0	0	406	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	21	0	0	0	0	0	67	0	0	0
Total Hourly Volume [veh/h]	84	956	63	9	1111	4	7	47	199	288	70	53
Peak Hour Factor	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890	0.9890
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	242	16	2	281	1	2	12	50	73	18	13
Total Analysis Volume [veh/h]	85	967	64	9	1123	4	7	48	201	291	71	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	77	0	9	73	0	0	23	0	0	31	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	79	79	2	72	72	19	19	24	24
g / C, Green / Cycle	0.06	0.56	0.56	0.01	0.51	0.51	0.14	0.14	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.52	0.04	0.01	0.60	0.00	0.03	0.12	0.16	0.07
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1888	1615	1810	1765
c, Capacity [veh/h]	107	1050	907	20	961	817	261	223	316	309
d1, Uniform Delay [s]	65.04	27.86	14.01	68.76	34.02	16.57	53.57	59.40	56.79	51.29
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.14	0.27	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.61	14.24	0.15	14.63	87.06	0.01	0.40	15.68	21.81	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.92	0.07	0.45	1.17	0.00	0.21	0.90	0.92	0.41
d, Delay for Lane Group [s/veh]	77.66	42.10	14.16	83.39	121.08	16.58	53.97	75.08	78.60	52.15
Lane Group LOS	E	D	B	F	F	B	D	E	E	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.38	32.49	0.98	0.40	54.90	0.07	1.76	8.00	12.04	4.00
50th-Percentile Queue Length [ft/ln]	84.52	812.19	24.52	10.10	1372.54	1.67	44.11	200.09	301.08	100.05
95th-Percentile Queue Length [veh/ln]	6.09	41.84	1.77	0.73	75.57	0.12	3.18	12.64	17.73	7.20
95th-Percentile Queue Length [ft/ln]	152.14	1045.89	44.14	18.17	1889.20	3.00	79.40	316.09	443.36	180.09

**Movement, Approach, & Intersection Results**

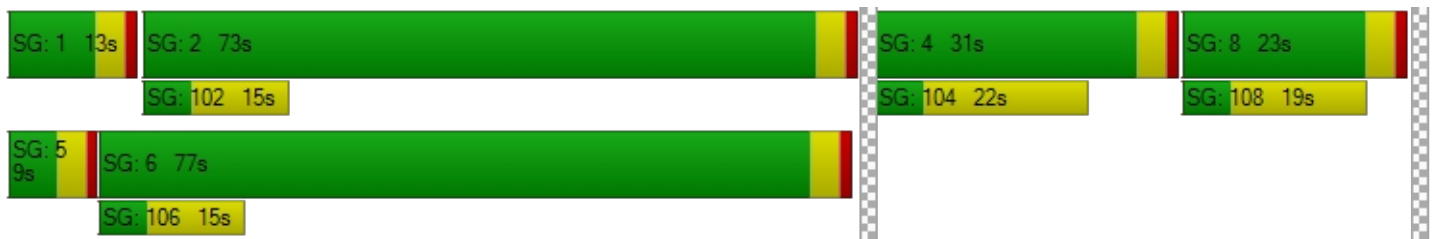
d_M, Delay for Movement [s/veh]	77.66	42.10	14.16	83.39	121.08	16.58	53.97	53.97	75.08	78.60	52.15	52.15
Movement LOS	E	D	B	F	F	B	D	D	E	E	D	D
d_A, Approach Delay [s/veh]	43.21			120.41			70.54			70.65		
Approach LOS	D			F			E			E		
d_I, Intersection Delay [s/veh]	79.50											
Intersection LOS	E											
Intersection V/C	0.933											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	61.29	61.29
I_p,int, Pedestrian LOS Score for Intersection	2.870	2.744	2.215	2.144
Crosswalk LOS	C	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1043	986	271	386
d_b, Bicycle Delay [s]	16.03	18.00	52.29	45.60
I_b,int, Bicycle LOS Score for Intersection	3.436	3.434	2.093	2.246
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	21	771	203	97	1043	0	0	12	69	193	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	174	0	11	396	0	0	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	52	0	0	0	0	0	18	0	0	13
Total Hourly Volume [veh/h]	21	960	155	110	1460	0	0	12	52	197	5	38
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	248	40	28	377	0	0	3	13	51	1	10
Total Analysis Volume [veh/h]	22	991	160	114	1507	0	0	12	54	203	5	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	23	23	12	25	0	0	9	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	38	38	6	42	42	4	4	6	6	6
g / C, Green / Cycle	0.03	0.55	0.55	0.08	0.60	0.60	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.27	0.10	0.06	0.40	0.40	0.01	0.03	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1814	1615
c, Capacity [veh/h]	49	1967	878	151	1140	1140	101	86	167	167	149
d1, Uniform Delay [s]	33.68	10.08	8.12	31.51	9.31	9.31	31.68	32.57	30.72	30.72	29.68
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.46	0.93	0.46	7.53	3.02	3.02	0.52	7.28	3.79	3.77	0.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.45	0.50	0.18	0.76	0.66	0.66	0.12	0.63	0.62	0.62	0.26
d, Delay for Lane Group [s/veh]	40.14	11.00	8.58	39.04	12.33	12.33	32.20	39.85	34.51	34.49	30.60
Lane Group LOS	D	B	A	D	B	B	C	D	C	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.45	4.32	1.17	2.14	7.03	7.03	0.20	1.04	1.81	1.81	0.63
50th-Percentile Queue Length [ft/ln]	11.14	108.01	29.24	53.49	175.74	175.74	5.06	26.10	45.22	45.29	15.76
95th-Percentile Queue Length [veh/ln]	0.80	7.73	2.11	3.85	11.38	11.38	0.36	1.88	3.26	3.26	1.14
95th-Percentile Queue Length [ft/ln]	20.05	193.23	52.64	96.28	284.45	284.45	9.12	46.99	81.40	81.52	28.38

**Movement, Approach, & Intersection Results**

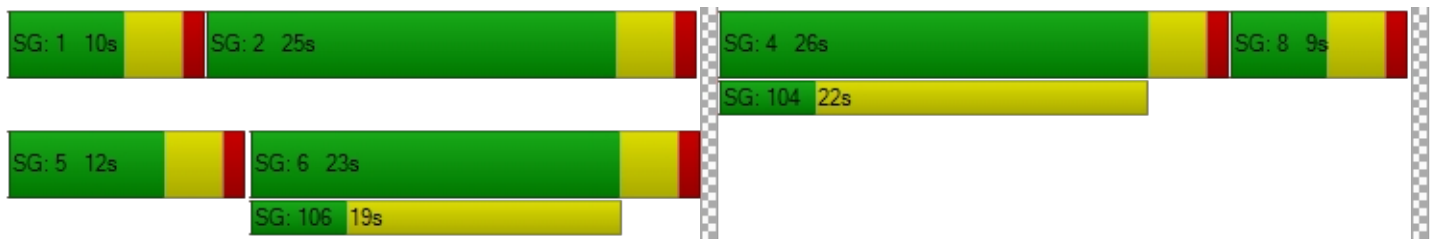
d_M, Delay for Movement [s/veh]	40.14	11.00	8.58	39.04	12.33	12.33	32.20	32.20	39.85	34.50	34.49	30.60
Movement LOS	D	B	A	D	B	B	C	C	D	C	C	C
d_A, Approach Delay [s/veh]	11.22			14.21			38.46			33.89		
Approach LOS	B			B			D			C		
d_I, Intersection Delay [s/veh]	15.16											
Intersection LOS	B											
Intersection V/C	0.500											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.808			0.000			2.284		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	542			599			143			627		
d_b, Bicycle Delay [s]	18.64			17.21			30.24			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.570			2.897			1.698			1.989		
Bicycle LOS	B			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	202	284	0	0	1131	170	0	0	0	71	0	708
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	40	0	0	389	6	0	0	0	0	0	134
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	45	0	0	0	0	0	214
Total Hourly Volume [veh/h]	206	330	0	0	1543	134	0	0	0	72	0	642
Peak Hour Factor	0.9670	0.9670	1.0000	1.0000	0.9670	0.9670	1.0000	1.0000	1.0000	0.9670	1.0000	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	85	0	0	399	35	0	0	0	19	0	166
Total Analysis Volume [veh/h]	213	341	0	0	1596	139	0	0	0	74	0	664
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	13	22	0	0	9	0	0	0	0	38	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	9	48	36		4
g / C, Green / Cycle	0.14	0.81	0.60		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.09	0.44		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	263	2915	2149		111
d1, Uniform Delay [s]	24.90	1.25	8.87		27.65
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	5.89	0.08	2.37		6.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.81	0.12	0.74		0.67
d, Delay for Lane Group [s/veh]	30.79	1.33	11.24		34.43
Lane Group LOS	C	A	B		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	3.18	0.10	6.23		1.20
50th-Percentile Queue Length [ft/ln]	79.52	2.44	155.63		29.91
95th-Percentile Queue Length [veh/ln]	5.73	0.18	10.32		2.15
95th-Percentile Queue Length [ft/ln]	143.14	4.39	257.93		53.83

**Movement, Approach, & Intersection Results**

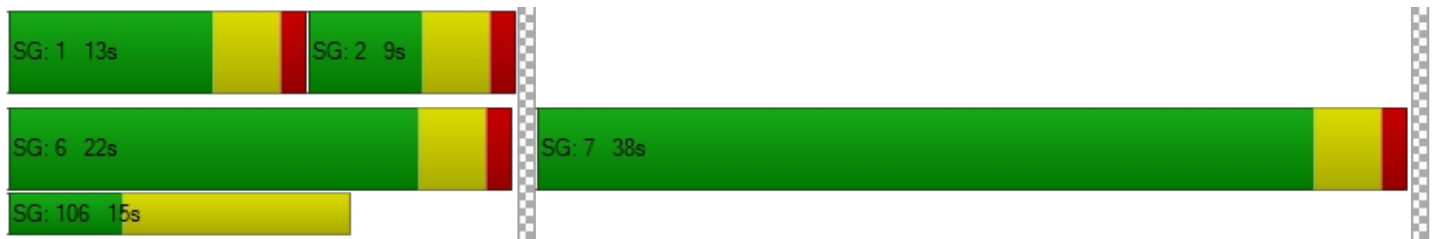
d_M, Delay for Movement [s/veh]	30.79	1.33	0.00	0.00	11.24	0.00	0.00	0.00	0.00	0.00	34.43	0.00	0.00
Movement LOS	C	A			B						C		
d_A, Approach Delay [s/veh]	12.66				11.24				0.00		34.43		
Approach LOS	B				B				A		C		
d_I, Intersection Delay [s/veh]	12.37												
Intersection LOS	B												
Intersection V/C	0.600												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		0.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		21.72	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		0.000		1.945	
Crosswalk LOS	F		F		F		A	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	599		166		0		1132	
d_b, Bicycle Delay [s]	14.74		25.25		30.04		5.66	
I_b,int, Bicycle LOS Score for Intersection	2.017		2.876		4.132		1.560	
Bicycle LOS	B		C		D		A	

**Sequence**




Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	50.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.866

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	456	63	512	574	0	120	0	752	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	33	0	319	71	0	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	0	0	0	192	0	0	0
Total Hourly Volume [veh/h]	0	498	48	841	656	0	129	0	575	0	0	0
Peak Hour Factor	1.0000	0.9280	0.9280	0.9280	0.9280	1.0000	0.9280	1.0000	0.9280	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	134	13	227	177	0	35	0	155	0	0	0
Total Analysis Volume [veh/h]	0	537	52	906	707	0	139	0	620	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	18	0	39	57	0	23	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	80	80	80	80	80	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	14	35	53	19	19	
g / C, Green / Cycle	0.18	0.44	0.66	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.15	0.50	0.20	0.08	0.22	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	637	790	2398	429	678	
d1, Uniform Delay [s]	31.92	22.55	5.66	25.23	29.74	
k, delay calibration	0.50	0.50	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	12.85	80.47	0.31	0.43	5.34	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.84	1.15	0.29	0.32	0.91	
d, Delay for Lane Group [s/veh]	44.77	103.02	5.97	25.66	35.09	
Lane Group LOS	D	F	A	C	D	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	6.00	31.18	2.13	2.17	6.08	
50th-Percentile Queue Length [ft/ln]	150.12	779.47	53.24	54.29	151.92	
95th-Percentile Queue Length [veh/ln]	10.02	44.40	3.83	3.91	10.12	
95th-Percentile Queue Length [ft/ln]	250.59	1110.11	95.83	97.71	252.99	



**Movement, Approach, & Intersection Results**

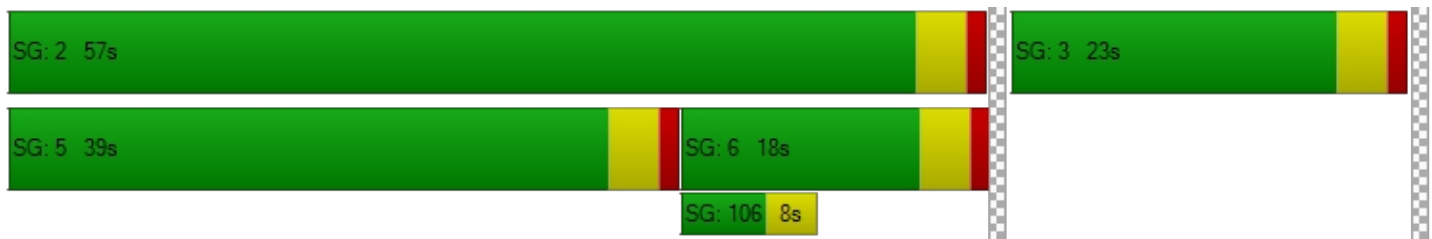
d_M, Delay for Movement [s/veh]	0.00	44.77	0.00	103.02	5.97	0.00	25.66	0.00	35.09	0.00	0.00	0.00
Movement LOS		D		F	A		C		D			
d_A, Approach Delay [s/veh]	44.77			60.48			33.36			0.00		
Approach LOS	D			E			C			A		
d_I, Intersection Delay [s/veh]	50.51											
Intersection LOS	D											
Intersection V/C	0.866											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			31.53		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.302		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	350			1324			475			0		
d_b, Bicycle Delay [s]	27.25			4.57			23.28			40.02		
I_b,int, Bicycle LOS Score for Intersection	2.003			2.890			1.560			4.132		
Bicycle LOS	B			C			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	16	0	0	22	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	0	11	20	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	0	11	42	0	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	3	11	0	5
Total Analysis Volume [veh/h]	54	0	12	44	0	21
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.23	8.63
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.58	0.58	1.59	1.59
d_A, Approach Delay [s/veh]	0.00		1.57		8.63	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.06					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.060

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0000	1.0000	1.0200	1.0200	1.0200	1.0000	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	0	20	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	51	0	0	42	0	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	0	0	11	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	54	0	0	44	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.06	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.01	9.26	8.56	9.02	9.21	8.51	7.20	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.19	0.19	0.19	0.15	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.78	4.78	4.78	3.85	3.85	3.85	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.26			9.21			2.40			2.40		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.23											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	16	0	0	22	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	14	3	17	0	0	0	0	8	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	46	14	3	39	0	0	0	0	8	0	5
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	4	1	10	0	0	0	0	2	0	1
Total Analysis Volume [veh/h]	0	48	14	3	41	0	0	0	0	8	0	5
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.32	0.00	0.00	9.12	9.60	8.48	9.14	9.61	8.59
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.15	0.15	0.15	0.00	0.00	0.00	1.06	1.06	1.06
d_A, Approach Delay [s/veh]	0.00			0.50			9.06			8.93		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.16											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	434	423	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	150	60	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	593	491	0	0	10
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	156	129	0	0	3
Total Analysis Volume [veh/h]	6	624	517	0	0	10
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	8.42	0.00	0.00	0.00	0.00	11.52
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.05
95th-Percentile Queue Length [ft/ln]	0.43	0.43	0.00	0.00	0.00	1.36
d_A, Approach Delay [s/veh]	0.08		0.00		11.52	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	434	0	0	423	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	121	0	11	57	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	564	0	11	488	0	20
Peak Hour Factor	0.9500	1.0000	1.0000	0.9500	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	148	0	3	128	0	5
Total Analysis Volume [veh/h]	594	0	11	514	0	20
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	8.67	0.00	0.00	12.37
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.00	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.84	0.84	0.00	3.06
d_A, Approach Delay [s/veh]	0.00		0.18		12.37	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.30					
Intersection LOS	B					

**Intersection Level Of Service Report**  
**Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	5.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	434	0	0	423	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	116	15	0	55	3	5	0	28	28	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	1	0	0	7	0	0	0
Total Hourly Volume [veh/h]	15	559	11	0	486	2	5	0	21	28	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	147	3	0	128	1	1	0	6	7	0	0
Total Analysis Volume [veh/h]	16	588	12	0	512	2	5	0	22	29	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	28	0	9	27	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	46	0	45	2	2
g / C, Green / Cycle	0.02	0.77	0.00	0.75	0.03	0.03
(v / s)_i Volume / Saturation Flow Rate	0.01	0.33	0.00	0.29	0.02	0.02
s, saturation flow rate [veh/h]	1714	1794	1714	1799	1767	1684
c, Capacity [veh/h]	37	1371	3	1340	131	177
d1, Uniform Delay [s]	29.07	2.51	0.00	2.74	28.49	28.55
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.71	1.02	0.00	0.83	0.77	0.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.44	0.00	0.38	0.21	0.16
d, Delay for Lane Group [s/veh]	36.78	3.53	0.00	3.58	29.26	28.98
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.29	0.69	0.00	1.28	0.39	0.41
50th-Percentile Queue Length [ft/ln]	7.15	17.27	0.00	31.96	9.78	10.30
95th-Percentile Queue Length [veh/ln]	0.51	1.24	0.00	2.30	0.70	0.74
95th-Percentile Queue Length [ft/ln]	12.87	31.09	0.00	57.52	17.61	18.54

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	36.78	3.53	3.53	0.00	3.58	3.58	29.26	29.26	29.26	28.98	28.98	28.98
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	4.39			3.58			29.26			28.98		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.20											
Intersection LOS	A											
Intersection V/C	0.352											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.548			2.290			1.731			1.718		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	799			766			632			632		
d_b, Bicycle Delay [s]	10.83			11.44			14.05			14.05		
I_b,int, Bicycle LOS Score for Intersection	2.583			2.409			1.616			1.607		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-








**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	16.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	220	101	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	10	6	342	155	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	6	566	258	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	2	149	68	2
Total Analysis Volume [veh/h]	11	11	6	596	272	6
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	16.78	10.10	7.79	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.86	3.86	0.35	0.35	0.00	0.00
d_A, Approach Delay [s/veh]	13.44		0.08		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.38					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	30	42	42	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	5	6	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	34	48	49	10	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	13	13	3	0
Total Analysis Volume [veh/h]	0	36	51	52	11	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.40	0.00	0.00	0.00	9.10	8.69
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.94	0.94
d_A, Approach Delay [s/veh]	0.00		0.00		9.10	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.67					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	19	0	0	21	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	6	0	5	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	6	0	26	10	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	2	0	7	3	0
Total Analysis Volume [veh/h]	23	6	0	27	11	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.79	8.45
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.87	0.87
d_A, Approach Delay [s/veh]	0.00		0.00		8.79	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.44					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	19	0	0	21	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	10	0	15	0	0	0	0	18	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	27	10	0	36	0	0	0	0	18	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	3	0	9	0	0	0	0	5	0	0
Total Analysis Volume [veh/h]	0	28	11	0	38	0	0	0	0	19	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**




V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.27	0.00	0.00	8.89	9.41	8.46	8.97	9.46	8.52
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57	1.57	1.57
d_A, Approach Delay [s/veh]	0.00			0.00			8.92			8.97		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.78											
Intersection LOS	A											



**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	229	102	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	0	0	385	178	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	0	619	282	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	163	74	1
Total Analysis Volume [veh/h]	11	0	0	652	297	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	13.78	9.35	7.83	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.01	2.01	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.78		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	0	0	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	114	105	0	0	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	30	28	0	0	5
Total Analysis Volume [veh/h]	12	120	111	0	0	21
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.43	0.00	0.00	0.00	10.01	8.88
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.61	0.61	0.00	0.00	1.70	1.70
d_A, Approach Delay [s/veh]	0.68		0.00		8.88	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.04					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	112	103	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	11	20	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	125	125	0	0	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	33	33	0	0	4
Total Analysis Volume [veh/h]	9	132	132	0	0	17
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.47	0.00	0.00	0.00	10.16	8.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.46	0.46	0.00	0.00	1.41	1.41
d_A, Approach Delay [s/veh]	0.48		0.00		8.97	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.76					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 10 OY PM + P

Report File: C:\...\ID OY PM + P.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	616	1264	626	604	995	900	996	593	505	617	7716

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	171	1415	190	726	1200	141	326	548	83	191	339	825	6155

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1733	13	49	1437	9	52	3293

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	166	1360	44	147	1169	107	180	159	126	101	135	175	3869

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	37	9	26	26	7	9	11	434	26	20	428	17	1050

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	157	358	77	17	257	10	8	293	189	46	271	30	1713

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	470	439	126	378	171	82	1666

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	31	8	11	24	16	24	24	329	24	13	309	32	845

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	46	8	10	566	256	27	913

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	13	32	10	75	51	15	30	579	20	8	277	73	1183

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	584	1488	1239	650	444	5	577	4987

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1545	573	405	1248	594	2	356	4723

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	7	1917	2	40	1334	238	181	4	16	1	2	120	3862

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	118	1315	28	156	1007	169	432	324	145	29	174	194	4091

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	160	1363	33	78	975	65	107	141	128	27	115	57	3249



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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	139	1155	38	103	921	156	268	124	216	46	65	78	3309

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	52	1279	9	40	1076	30	65	23	34	18	21	15	2662

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	152	1173	16	55	1059	28	53	21	340	32	10	18	2957

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	999	190	242	1087	9	13	7	5	405	9	382	3357

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	16	481	435	797	651	23	30	51	15	304	86	624	3513

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	14	7	362	11	370	386	753	9	8	655	341	2929

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	84	956	84	9	1111	4	7	47	266	288	70	53	2979

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	21	960	207	110	1460	0	0	12	70	197	5	51	3093

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	206	330	1543	179	72	856	3186

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	498	64	841	656	129	767	2955

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	51	0	11	42	0	20	124

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	51	0	0	42	0	0	0	0	0	0	0	93

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	46	14	3	39	0	0	0	0	8	0	5	115

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	6	593	491	0	10	1100	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	564	0	11	488	20	1083	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	15	559	15	0	486	3	5	0	28	28	0	0	1139

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	10	10	6	566	258	6	856

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	34	48	49	10	0	141

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	22	6	0	26	10	0	64

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	27	10	0	36	0	0	0	0	18	0	0	91

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	10	0	0	619	282	5	916

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	11	114	105	0	0	20	250

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	9	125	125	0	0	16	275

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**Option 1: SP Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Total Analysis Volume [veh/h]	179	378	87	18	267	10	8	320	200	49	297	31

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	372	465	372	391	416	391
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	20.98	126.15	41.05	28.93	25.17	67.72
95th-Percentile Queue Length [veh]	2.51	17.89	6.75	4.78	4.25	11.03
95th-Percentile Queue Length [ft]	62.82	447.21	168.75	119.39	106.25	275.87
Approach Delay [s/veh]	96.92		41.05	27.05		67.72
Approach LOS	F		E	D		F
Intersection Delay [s/veh]	62.01					
Intersection LOS	F					

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**Option 1: SP Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	352	154	59	326	40	46
Total Analysis Volume [veh/h]	509	475	196	415	192	78

**Intersection Settings**

Cycle Length [s]	115					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	94	0	0	94	21	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.78	0.78	0.15
(v / s)_i Volume / Saturation Flow Rate	0.60	0.93	0.16
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1632	658	1657
c, Capacity [veh/h]	1277	556	245
X, volume / capacity	0.77	1.10	1.10
d, Delay for Lane Group [s/veh]	11.39	95.73	113.74
Lane Group LOS	B	F	F

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Critical Lane Group	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	9.99	26.33	11.42
50th-Percentile Queue Length [ft/ln]	249.64	658.18	285.53
95th-Percentile Queue Length [veh/ln]	15.17	37.68	17.71
95th-Percentile Queue Length [ft/ln]	379.20	941.98	442.78

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	11.39	11.39	95.73	95.73	113.74	113.74
Movement LOS	B	B	F	F	F	F
Critical Movement	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	11.39		95.73		113.74	
Approach LOS	B		F		F	
d_I, Intersection Delay [s/veh]	53.84					
Intersection LOS	D					
Intersection V/C	1.092					

Option 1: SP EB Right to EB Thru-Right

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			⇄			⇄r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Total Analysis Volume [veh/h]	14	34	10	103	53	16	31	706	21	8	315	83

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	527	549	609	617	570	643
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	10.67	12.51	17.86	17.37	16.98	9.13
95th-Percentile Queue Length [veh]	0.37	1.33	4.30	4.19	3.53	0.44
95th-Percentile Queue Length [ft]	9.22	33.26	107.59	104.63	88.20	11.05
Approach Delay [s/veh]	10.67	12.51	17.61		15.38	
Approach LOS	B		B		C	
Intersection Delay [s/veh]	16.04					
Intersection LOS	C					

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**Option 1: SP SB Thru to SB Thru Right**

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Total Analysis Volume [veh/h]	665	1613	0	0	1334	523	0	0	0	486	5	465

**Intersection Settings**

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	39	70	0	0	31	0	0	0	0	0	30	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.35	0.66	0.27	0.27	0.27		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.41	0.47	0.27	0.30	0.30		0.29	0.30
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3				3	3
s, saturation flow rate [veh/h]	1619	3427	3427	1566	1530		1715	1530
c, Capacity [veh/h]	566	2262	926	423	413		446	398
X, volume / capacity	1.17	0.71	1.00	1.10	1.12		1.10	1.17
d, Delay for Lane Group [s/veh]	128.49	12.88	66.79	109.14	118.75		106.29	135.07
Lane Group LOS	F	B	F	F	F		F	F



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Critical Lane Group	Yes	No	NO	NO	Yes		NO	Yes
50th-Percentile Queue Length [veh/ln]	28.31	10.61	14.93	18.62	19.29		19.24	20.35
50th-Percentile Queue Length [ft/ln]	707.78	265.27	373.14	465.53	482.28		481.09	508.73
95th-Percentile Queue Length [veh/ln]	41.02	15.95	21.30	27.14	28.34		27.96	30.27
95th-Percentile Queue Length [ft/ln]	1025.49	398.82	532.50	678.52	708.59		698.90	756.67

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	128.49	12.88	0.00	0.00	69.84	117.67	0.00	0.00	0.00	106.29	106.29	135.07
Movement LOS	F	B			E	F				F	F	F
Critical Movement	No	No			No	No				No	No	Yes
d_A, Approach Delay [s/veh]	46.63		90.37		0.00			120.29				
Approach LOS	D		F		A			F				
d_I, Intersection Delay [s/veh]	76.41											
Intersection LOS	E											
Intersection V/C	1.018											

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**Option 1: SP 2nd EB Left**

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Total Analysis Volume [veh/h]	124	1468	29	163	1077	177	452	339	152	30	182	203

**Intersection Settings**

Cycle Length [s]	110											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	44	0	16	46	0	20	39	0	11	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.09	0.44	0.44	0.11	0.46	0.46	0.15	0.27	0.27	0.03	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.42	0.42	0.10	0.36	0.36	0.15	0.11	0.11	0.02	0.10	0.13
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1593	1772	1760	1593	1772	1686	3095	3186	1422	1593	1772	1506
c, Capacity [veh/h]	146	784	779	175	816	777	451	873	390	45	277	236
X, volume / capacity	0.85	0.96	0.96	0.93	0.78	0.79	1.00	0.39	0.39	0.66	0.66	0.86
d, Delay for Lane Group [s/veh]	61.99	52.76	53.44	67.64	32.46	33.28	67.12	32.75	33.12	68.48	46.27	54.19
Lane Group LOS	E	D	D	E	C	C	F	C	C	E	D	D

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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	3.86	23.41	23.48	5.34	15.27	14.88	7.40	3.70	3.35	1.01	4.85	5.96
50th-Percentile Queue Length [ft/ln]	96.58	585.36	587.09	133.58	381.67	372.05	184.90	92.40	83.85	25.37	121.22	148.99
95th-Percentile Queue Length [veh/ln]	6.95	31.35	31.43	9.13	21.67	21.21	11.87	6.65	6.04	1.83	8.46	9.96
95th-Percentile Queue Length [ft/ln]	173.85	783.76	785.78	228.35	541.86	530.22	296.63	166.31	150.94	45.67	211.50	249.07

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	61.99	53.09	53.44	67.64	32.79	33.28	67.12	32.75	33.12	68.48	46.27	54.19
Movement LOS	E	D	D	E	C	C	F	C	C	E	D	D
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	53.78			36.86			49.28			51.75		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	47.17											
Intersection LOS	D											
Intersection V/C	0.808											

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Option 1: SP EB Left

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Total Analysis Volume [veh/h]	160	1224	30	109	976	182	355	139	208	49	71	83

Intersection Settings

Cycle Length [s]	65											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	29	0	10	28	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.11	0.39	0.39	0.09	0.37	0.37	0.34	0.34	0.34	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.10	0.36	0.36	0.07	0.34	0.34	0.27	0.08	0.14	0.09	0.06	0.06
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1772	1757	1593	1772	1676	1329	1800	1530	1385	1506	1506
c, Capacity [veh/h]	176	693	688	137	653	618	397	609	517	546	509	509
X, volume / capacity	0.91	0.91	0.91	0.79	0.91	0.91	0.89	0.23	0.40	0.22	0.16	0.16
d, Delay for Lane Group [s/veh]	44.48	36.50	36.82	39.05	38.32	39.75	36.02	15.65	17.02	15.67	15.25	15.25
Lane Group LOS	D	D	D	D	D	D	D	B	B	B	B	B

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	3.12	11.34	11.32	1.97	11.02	10.72	6.40	1.40	2.26	1.20	0.82
50th-Percentile Queue Length [ft/ln]	78.05	283.39	282.99	49.33	275.47	267.91	159.98	34.98	56.43	29.93	20.46
95th-Percentile Queue Length [veh/ln]	5.62	16.86	16.84	3.55	16.46	16.09	10.55	2.52	4.06	2.16	1.47
95th-Percentile Queue Length [ft/ln]	140.49	421.43	420.93	88.79	411.56	402.13	263.70	62.96	101.58	53.88	36.82

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.48	36.66	36.82	39.05	38.88	39.75	36.02	15.65	17.02	15.67	15.67	15.25
Movement LOS	D	D	D	D	D	D	D	B	B	B	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	37.55			39.02			26.36			15.49		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	34.63											
Intersection LOS	C											
Intersection V/C	0.703											

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**Option 1: SP 2nd SB Left**

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Total Analysis Volume [veh/h]	18	533	479	910	729	19	33	56	17	335	95	522

**Intersection Settings**

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	31	46	0	0	19	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.02	0.29	0.29	0.27	0.54	0.54	0.06	0.06	0.22		
(v / s)_i Volume / Saturation Flow Rate	0.01	0.15	0.30	0.26	0.20	0.01	0.02	0.04	0.24		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	1781	3560	1589	3514	3560	1615	1810	1825	1829		
c, Capacity [veh/h]	37	1040	464	948	1926	874	105	106	402		
X, volume / capacity	0.48	0.51	1.03	0.96	0.38	0.02	0.31	0.69	1.07		
d, Delay for Lane Group [s/veh]	57.91	31.30	85.48	43.11	13.83	10.72	46.90	53.85	93.25		
Lane Group LOS	E	C	F	D	B	B	D	D	F		

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.54	5.52	17.47	11.62	4.66	0.20	0.83	2.00	15.75
50th-Percentile Queue Length [ft/ln]	13.50	138.02	436.73	290.55	116.62	5.01	20.81	49.92	393.84
95th-Percentile Queue Length [veh/ln]	0.97	9.37	24.80	17.21	8.21	0.36	1.50	3.59	23.09
95th-Percentile Queue Length [ft/ln]	24.30	234.35	620.03	430.32	205.17	9.02	37.46	89.85	577.31

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.91	31.30	85.48	43.11	13.83	10.72	46.90	53.85	53.85	93.25	93.25	0.00
Movement LOS	E	C	F	D	B	B	D	D	D	F	F	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	56.96			29.86			51.68			93.25		
Approach LOS	E			C			D			F		
d_I, Intersection Delay [s/veh]	47.69											
Intersection LOS	D											
Intersection V/C	0.835											

Version 2021 (SP 0-2)

Option 1: SP 2nd WB Left

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Total Analysis Volume [veh/h]	85	974	64	9	1153	4	7	48	201	291	71	54

Intersection Settings

Cycle Length [s]	145											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	87	0	9	84	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.64	0.64	0.01	0.60	0.60	0.14	0.14	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.52	0.04	0.01	0.62	0.00	0.03	0.12	0.08	0.07
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1888	1615	3514	1765
c, Capacity [veh/h]	101	1196	1033	20	1112	945	262	224	353	177
X, volume / capacity	0.84	0.81	0.06	0.45	1.04	0.00	0.21	0.90	0.82	0.70
d, Delay for Lane Group [s/veh]	84.49	25.84	9.93	86.19	66.29	11.94	55.80	77.94	68.79	68.15
Lane Group LOS	F	C	A	F	F	B	E	E	E	E



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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	3.60	25.68	0.81	0.42	48.25	0.06	1.83	8.33	5.53	4.73
50th-Percentile Queue Length [ft/ln]	90.07	641.98	20.19	10.44	1206.27	1.40	45.76	208.19	138.19	118.34
95th-Percentile Queue Length [veh/ln]	6.49	33.99	1.45	0.75	61.58	0.10	3.29	13.06	9.38	8.30
95th-Percentile Queue Length [ft/ln]	162.13	849.74	36.35	18.79	1539.56	2.52	82.37	326.50	234.59	207.55

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	84.49	25.84	9.93	86.19	66.29	11.94	55.80	55.80	77.94	68.79	68.15	68.15
Movement LOS	F	C	A	F	F	B	E	E	E	E	E	E
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	29.38			66.26			73.18			68.60		
Approach LOS	C			E			E			E		
d_I, Intersection Delay [s/veh]	53.20											
Intersection LOS	D											
Intersection V/C	0.871											

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**Option 2: OY 1 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Total Analysis Volume [veh/h]	156	367	77	18	264	10	8	294	192	46	272	31

**Intersection Settings**

**Lanes**




Capacity per Entry Lane [veh/h]	385	444	385	401	428	399
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	18.25	94.41	36.45	25.03	21.99	49.91
95th-Percentile Queue Length [veh]	1.91	14.91	6.16	3.98	3.54	8.75
95th-Percentile Queue Length [ft]	47.81	372.68	154.12	99.60	88.56	218.75
Approach Delay [s/veh]	74.61		36.45	23.51		49.91
Approach LOS	F		E	C		E
Intersection Delay [s/veh]	48.67					
Intersection LOS	E					

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**Option 2: OY 1 Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	352	154	59	326	40	46
Total Analysis Volume [veh/h]	504	472	122	405	182	58

**Intersection Settings**

Cycle Length [s]	100					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	16	0	0	16	84	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.75	0.75	0.17
(v / s)_i Volume / Saturation Flow Rate	0.60	0.71	0.14
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1632	740	1666
c, Capacity [veh/h]	1232	603	275
X, volume / capacity	0.79	0.87	0.87
d, Delay for Lane Group [s/veh]	12.72	34.62	49.16
Lane Group LOS	B	C	D

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Critical Lane Group	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	9.68	11.04	6.33
50th-Percentile Queue Length [ft/ln]	242.08	276.07	158.35
95th-Percentile Queue Length [veh/ln]	14.79	16.49	10.46
95th-Percentile Queue Length [ft/ln]	369.66	412.31	261.54

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	12.72	12.72	34.62	34.62	49.16	49.16
Movement LOS	B	B	C	C	D	D
Critical Movement	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	12.72		34.62		49.16	
Approach LOS	B		C		D	
d_I, Intersection Delay [s/veh]	24.36					
Intersection LOS	C					
Intersection V/C	0.856					

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**Option 2: OY 1 EB Right to EB Thru-Right**

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			⇄			⇄		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Total Analysis Volume [veh/h]	14	34	10	69	53	16	31	580	21	8	271	70

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	571	584	641	652	607	692
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	10.02	11.06	13.68	13.33	13.57	8.49
95th-Percentile Queue Length [veh]	0.34	0.91	2.74	2.66	2.41	0.34
95th-Percentile Queue Length [ft]	8.44	22.82	68.49	66.47	60.21	8.41
Approach Delay [s/veh]	10.02	11.06	13.50		12.55	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	12.76					
Intersection LOS	B					

Option 2: OY 1 SB Thru to SB Thru Right

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Total Analysis Volume [veh/h]	617	1593	0	0	1326	523	0	0	0	468	5	465

Intersection Settings

Cycle Length [s]	80											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	26	55	0	0	29	0	0	0	0	0	25	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.28	0.64	0.31	0.31	0.31		0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.38	0.46	0.27	0.30	0.30		0.28	0.30
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3			3	3	
s, saturation flow rate [veh/h]	1619	3427	3427	1566	1530		1715	1530
c, Capacity [veh/h]	446	2184	1070	489	478		451	402
X, volume / capacity	1.38	0.73	0.86	0.95	0.97		1.05	1.16
d, Delay for Lane Group [s/veh]	214.81	12.03	35.22	56.05	60.98		73.79	116.61
Lane Group LOS	F	B	D	E	E		F	F

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Critical Lane Group	Yes	No	NO	NO	Yes		NO	Yes
50th-Percentile Queue Length [veh/ln]	31.13	8.37	9.23	12.10	12.71		13.81	17.10
50th-Percentile Queue Length [ft/ln]	778.25	209.31	230.84	302.51	317.73		345.15	427.45
95th-Percentile Queue Length [veh/ln]	47.66	13.12	14.22	17.81	18.56		20.47	25.87
95th-Percentile Queue Length [ft/ln]	1191.38	327.94	355.42	445.13	463.90		511.63	646.84

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	214.81	12.03	0.00	0.00	36.69	60.40	0.00	0.00	0.00	73.79	73.79	116.61
Movement LOS	F	B			D	E				F	E	F
Critical Movement	Yes	No			No	No				No	No	No
d_A, Approach Delay [s/veh]	68.64				46.87		0.00		95.02			
Approach LOS	E				D		A		F			
d_I, Intersection Delay [s/veh]	65.54											
Intersection LOS	E											
Intersection V/C	0.987											

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**Option 2: OY 1 2nd EB Left**

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Total Analysis Volume [veh/h]	124	1352	29	163	1036	177	452	339	152	30	182	203

**Intersection Settings**

Cycle Length [s]	110											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	45	0	15	47	0	20	39	0	11	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.08	0.45	0.45	0.10	0.47	0.47	0.15	0.27	0.27	0.03	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.39	0.39	0.10	0.35	0.35	0.15	0.11	0.11	0.02	0.10	0.13
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1593	1772	1758	1593	1772	1683	3095	3186	1422	1593	1772	1506
c, Capacity [veh/h]	131	800	794	160	832	791	451	873	390	45	277	236
X, volume / capacity	0.94	0.87	0.87	1.02	0.74	0.75	1.00	0.39	0.39	0.66	0.66	0.86
d, Delay for Lane Group [s/veh]	75.18	39.21	39.47	86.88	29.78	30.39	67.12	32.75	33.12	68.48	46.27	54.19
Lane Group LOS	E	D	D	F	C	C	F	C	C	E	D	D



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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	4.29	18.42	18.40	6.05	14.06	13.62	7.40	3.70	3.35	1.01	4.85	5.96
50th-Percentile Queue Length [ft/ln]	107.37	460.62	459.88	151.27	351.38	340.57	184.90	92.40	83.85	25.37	121.22	148.99
95th-Percentile Queue Length [veh/ln]	7.69	25.46	25.43	10.15	20.20	19.68	11.87	6.65	6.04	1.83	8.46	9.96
95th-Percentile Queue Length [ft/ln]	192.34	636.61	635.72	253.73	505.08	491.89	296.63	166.31	150.94	45.67	211.50	249.07

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	75.18	39.34	39.47	86.88	30.03	30.39	67.12	32.75	33.12	68.48	46.27	54.19
Movement LOS	E	D	D	F	C	C	F	C	C	E	D	D
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	42.29			36.81			49.28			51.75		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	42.99											
Intersection LOS	D											
Intersection V/C	0.775											

Version 2021 (SP 0-2)

Option 2: OY 1 EB Left

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Total Analysis Volume [veh/h]	137	1224	30	109	976	151	266	129	160	49	68	83

Intersection Settings

Cycle Length [s]	75											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	19	0	30	37	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.10	0.46	0.46	0.09	0.44	0.44	0.29	0.29	0.29	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.08	0.36	0.36	0.07	0.33	0.33	0.20	0.07	0.10	0.09	0.09	0.06
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1772	1757	1593	1772	1690	1333	1800	1530	1343	1506	1506
c, Capacity [veh/h]	169	814	807	140	784	748	322	528	449	462	442	442
X, volume / capacity	0.81	0.77	0.77	0.78	0.73	0.74	0.83	0.24	0.36	0.25	0.19	0.19
d, Delay for Lane Group [s/veh]	41.76	24.09	24.20	42.62	23.35	23.74	37.50	20.44	21.42	21.06	20.05	20.05
Lane Group LOS	D	C	C	D	C	C	D	C	C	C	C	C

Version 2021 (SP 0-2)

Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	No	NO	NO
50th-Percentile Queue Length [veh/ln]	2.78	9.77	9.73	2.24	8.77	8.47	5.26	1.68	2.18	1.64	1.07
50th-Percentile Queue Length [ft/ln]	69.53	244.25	243.25	56.03	219.17	211.79	131.46	42.03	54.42	40.89	26.64
95th-Percentile Queue Length [veh/ln]	5.01	14.90	14.85	4.03	13.62	13.24	9.02	3.03	3.92	2.94	1.92
95th-Percentile Queue Length [ft/ln]	125.15	372.41	371.14	100.85	340.56	331.12	225.47	75.66	97.96	73.60	47.96

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	41.76	24.14	24.20	42.62	23.51	23.74	37.50	20.44	21.42	21.06	21.06	20.05
Movement LOS	D	C	C	D	C	C	D	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	25.88			25.22			28.90			20.64		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.83											
Intersection LOS	C											
Intersection V/C	0.624											

Version 2021 (SP 0-2)

Option 2: OY 1 2nd SB Left

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Total Analysis Volume [veh/h]	18	528	479	868	714	19	33	56	17	335	95	510

Intersection Settings

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	25	0	28	44	0	0	19	0	0	28	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.02	0.30	0.30	0.24	0.52	0.52	0.06	0.06	0.24		
(v / s)_i Volume / Saturation Flow Rate	0.01	0.15	0.30	0.25	0.20	0.01	0.02	0.04	0.24		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	1781	3560	1589	3514	3560	1615	1810	1825	1829		
c, Capacity [veh/h]	37	1076	480	843	1856	842	105	106	439		
X, volume / capacity	0.48	0.49	1.00	1.03	0.38	0.02	0.31	0.69	0.98		
d, Delay for Lane Group [s/veh]	57.91	30.23	75.33	60.79	14.97	11.67	46.90	53.84	66.22		
Lane Group LOS	E	C	E	F	B	B	D	D	E		

Version 2021 (SP 0-2)

Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.54	5.36	16.71	12.78	4.80	0.21	0.83	2.00	13.72
50th-Percentile Queue Length [ft/ln]	13.50	133.89	417.77	319.47	120.01	5.29	20.81	49.91	342.91
95th-Percentile Queue Length [veh/ln]	0.97	9.15	23.41	18.95	8.39	0.38	1.50	3.59	19.79
95th-Percentile Queue Length [ft/ln]	24.30	228.78	585.37	473.78	209.84	9.52	37.46	89.84	494.76

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	57.91	30.23	75.33	60.79	14.97	11.67	46.90	53.84	53.84	66.22	66.22	0.00
Movement LOS	E	C	E	F	B	B	D	D	D	E	E	
Critical Movement	No	No	Yes	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	51.80			39.77			51.68			66.22		
Approach LOS	D			D			D			E		
d_I, Intersection Delay [s/veh]	47.67											
Intersection LOS	D											
Intersection V/C	0.823											

Version 2021 (SP 0-2)

Option 2: OY 1 2nd WB Left

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Total Analysis Volume [veh/h]	85	960	64	9	1114	4	7	48	201	291	71	54

Intersection Settings

Cycle Length [s]	145											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	87	0	9	84	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.64	0.64	0.01	0.60	0.60	0.14	0.14	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.05	0.51	0.04	0.01	0.60	0.00	0.03	0.12	0.08	0.07
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1888	1615	3514	1765
c, Capacity [veh/h]	101	1196	1033	20	1112	945	262	224	353	177
X, volume / capacity	0.84	0.80	0.06	0.45	1.00	0.00	0.21	0.90	0.82	0.70
d, Delay for Lane Group [s/veh]	84.49	25.14	9.93	86.19	56.73	11.94	55.80	77.94	68.79	68.15
Lane Group LOS	F	C	A	F	F	B	E	E	E	E

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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	3.60	24.85	0.81	0.42	45.30	0.06	1.83	8.33	5.53	4.73
50th-Percentile Queue Length [ft/ln]	90.07	621.19	20.19	10.44	1132.39	1.40	45.76	208.19	138.19	118.34
95th-Percentile Queue Length [veh/ln]	6.49	33.02	1.45	0.75	56.41	0.10	3.29	13.06	9.38	8.30
95th-Percentile Queue Length [ft/ln]	162.13	825.56	36.35	18.79	1410.33	2.52	82.37	326.50	234.59	207.55

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	84.49	25.14	9.93	86.19	56.73	11.94	55.80	55.80	77.94	68.79	68.15	68.15
Movement LOS	F	C	A	F	F	B	E	E	E	E	E	E
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	28.81			56.80			73.18			68.60		
Approach LOS	C			E			E			E		
d_I, Intersection Delay [s/veh]	49.26											
Intersection LOS	D											
Intersection V/C	0.850											

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**Option 3: OY 2 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	269	66	17	222	10	8	225	162	39	195	29
Total Analysis Volume [veh/h]	163	371	80	18	266	10	8	303	196	48	281	31

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	379	451	379	397	422	395
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	19.13	105.99	38.52	26.49	23.17	56.40
95th-Percentile Queue Length [veh]	2.10	16.00	6.45	4.28	3.81	9.63
95th-Percentile Queue Length [ft]	52.38	399.92	161.13	107.07	95.19	240.69
Approach Delay [s/veh]	82.93		38.52	24.83		56.40
Approach LOS	F		E	C		F
Intersection Delay [s/veh]	53.60					
Intersection LOS	F					



Version 2021 (SP 0-2)

**Option 3: OY 2 Signalized**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	352	154	59	326	40	46
Total Analysis Volume [veh/h]	506	473	136	407	184	66

**Intersection Settings**

Cycle Length [s]	85					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	68	0	0	68	17	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	7	0	0	10	7	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.75	0.75	0.15
(v / s)_i Volume / Saturation Flow Rate	0.60	0.77	0.15
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800
Arrival type	3	3	3
s, saturation flow rate [veh/h]	1632	703	1661
c, Capacity [veh/h]	1228	582	255
X, volume / capacity	0.80	0.93	0.98
d, Delay for Lane Group [s/veh]	11.97	41.56	57.36
Lane Group LOS	B	D	E

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Critical Lane Group	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	7.42	11.92	6.56
50th-Percentile Queue Length [ft/ln]	185.61	298.04	164.04
95th-Percentile Queue Length [veh/ln]	11.89	17.58	10.76
95th-Percentile Queue Length [ft/ln]	297.33	439.60	269.07

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	11.97	11.97	41.56	41.56	57.36	57.36
Movement LOS	B	B	D	D	E	E
Critical Movement	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	11.97		41.56		57.36	
Approach LOS	B		D		E	
d_I, Intersection Delay [s/veh]	27.44					
Intersection LOS	C					
Intersection V/C	0.923					

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**Option 3: OY 2 EB Right to EB Thru-Right**

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			⇄			⇄		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	13	31	10	38	50	15	29	180	20	8	92	52
Total Analysis Volume [veh/h]	14	34	10	79	53	16	31	606	21	8	290	76

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	557	573	630	641	597	679
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	10.21	11.46	14.50	14.11	14.58	8.67
95th-Percentile Queue Length [veh]	0.35	1.03	3.04	2.95	2.78	0.38
95th-Percentile Queue Length [ft]	8.67	25.63	75.90	73.70	69.53	9.41
Approach Delay [s/veh]	10.21	11.46	14.31		13.38	
Approach LOS	B		B		B	
Intersection Delay [s/veh]	13.49					
Intersection LOS	B					

Option 3: OY 2 SB Thru to SB Thru Right

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	330	1348	0	0	1164	637	0	0	0	346	5	566
Total Analysis Volume [veh/h]	627	1597	0	0	1329	523	0	0	0	476	5	465

Intersection Settings

Cycle Length [s]	115											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	43	79	0	0	36	0	0	0	0	0	36	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.34	0.65	0.28	0.28	0.28		0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.39	0.47	0.27	0.30	0.30		0.28	0.30
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3			3	3	
s, saturation flow rate [veh/h]	1619	3427	3427	1566	1530		1715	1530
c, Capacity [veh/h]	548	2235	955	436	426		477	426
X, volume / capacity	1.14	0.71	0.97	1.06	1.09		1.01	1.09
d, Delay for Lane Group [s/veh]	122.52	15.01	63.68	101.75	110.27		82.87	112.24
Lane Group LOS	F	B	E	F	F		F	F

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Critical Lane Group	Yes	No	NO	NO	Yes		NO	Yes
50th-Percentile Queue Length [veh/ln]	27.99	12.92	15.80	19.50	20.06		18.83	20.27
50th-Percentile Queue Length [ft/ln]	699.72	322.90	394.99	487.43	501.47		470.66	506.70
95th-Percentile Queue Length [veh/ln]	39.96	18.81	22.32	27.74	28.81		26.07	29.16
95th-Percentile Queue Length [ft/ln]	999.11	470.25	557.96	693.40	720.29		651.73	729.01

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	122.52	15.01	0.00	0.00	66.38	109.29	0.00	0.00	0.00	82.87	82.87	112.24
Movement LOS	F	B			E	F				F	F	F
Critical Movement	Yes	No			No	No				No	No	No
d_A, Approach Delay [s/veh]	45.32				84.84		0.00		97.30			
Approach LOS	D				F		A		F			
d_I, Intersection Delay [s/veh]	69.69											
Intersection LOS	E											
Intersection V/C	0.994											

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**Option 3: OY 2 2nd EB Left**

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	82	893	26	144	801	108	273	307	124	25	161	169
Total Analysis Volume [veh/h]	124	1377	29	163	1054	177	452	339	152	30	182	203

**Intersection Settings**

Cycle Length [s]	110											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	45	0	15	47	0	20	39	0	11	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.08	0.45	0.45	0.10	0.47	0.47	0.15	0.27	0.27	0.03	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.08	0.40	0.40	0.10	0.35	0.36	0.15	0.11	0.11	0.02	0.10	0.13
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1593	1772	1759	1593	1772	1684	3095	3186	1422	1593	1772	1506
c, Capacity [veh/h]	131	800	794	160	832	791	451	873	390	45	277	236
X, volume / capacity	0.94	0.88	0.88	1.02	0.75	0.76	1.00	0.39	0.39	0.66	0.66	0.86
d, Delay for Lane Group [s/veh]	75.18	40.79	41.10	86.88	30.28	30.94	67.12	32.75	33.12	68.48	46.27	54.19
Lane Group LOS	E	D	D	F	C	C	F	C	C	E	D	D

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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	4.29	19.18	19.16	6.05	14.41	13.99	7.40	3.70	3.35	1.01	4.85	5.96
50th-Percentile Queue Length [ft/ln]	107.37	479.38	478.97	151.27	360.13	349.83	184.90	92.40	83.85	25.37	121.22	148.99
95th-Percentile Queue Length [veh/ln]	7.69	26.36	26.34	10.15	20.63	20.13	11.87	6.65	6.04	1.83	8.46	9.96
95th-Percentile Queue Length [ft/ln]	192.34	658.91	658.43	253.73	515.74	503.20	296.63	166.31	150.94	45.67	211.50	249.07

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	75.18	40.94	41.10	86.88	30.55	30.94	67.12	32.75	33.12	68.48	46.27	54.19
Movement LOS	E	D	D	F	C	C	F	C	C	E	D	D
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	43.72			37.18			49.28			51.75		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	43.60											
Intersection LOS	D											
Intersection V/C	0.782											

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**Option 3: OY 2 EB Left**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	898	37	101	778	47	39	89	46	45	49	76
Total Analysis Volume [veh/h]	147	1224	30	109	976	165	284	131	172	49	69	83

**Intersection Settings**

Cycle Length [s]	75											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	13	19	0	30	36	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.11	0.46	0.46	0.09	0.44	0.44	0.29	0.29	0.29	0.29	0.29	0.29
(v / s)_i Volume / Saturation Flow Rate	0.09	0.36	0.36	0.07	0.33	0.33	0.21	0.07	0.11	0.09	0.09	0.06
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1619	1772	1757	1593	1772	1684	1332	1800	1530	1342	1506	1506
c, Capacity [veh/h]	180	814	807	140	771	733	321	528	449	462	442	442
X, volume / capacity	0.81	0.77	0.77	0.78	0.76	0.76	0.89	0.25	0.38	0.26	0.19	0.19
d, Delay for Lane Group [s/veh]	41.19	24.09	24.21	42.62	24.69	25.17	40.64	20.47	21.67	21.07	20.05	20.05
Lane Group LOS	D	C	C	D	C	C	D	C	C	C	C	C



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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	No	NO	NO
50th-Percentile Queue Length [veh/ln]	2.96	9.77	9.73	2.24	9.20	8.87	5.82	1.71	2.36	1.65	1.07
50th-Percentile Queue Length [ft/ln]	74.02	244.24	243.27	56.03	229.89	221.85	145.62	42.74	59.08	41.29	26.64
95th-Percentile Queue Length [veh/ln]	5.33	14.90	14.85	4.03	14.17	13.76	9.78	3.08	4.25	2.97	1.92
95th-Percentile Queue Length [ft/ln]	133.24	372.39	371.17	100.85	354.22	343.99	244.57	76.93	106.34	74.32	47.96

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	41.19	24.15	24.21	42.62	24.89	25.17	40.64	20.47	21.67	21.07	21.07	20.05
Movement LOS	D	C	C	D	C	C	D	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	25.93			26.47			30.58			20.65		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	26.61											
Intersection LOS	C											
Intersection V/C	0.637											

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**Option 3: OY 2 2nd SB Left**

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	16	338	396	534	468	23	29	50	15	229	84	525
Total Analysis Volume [veh/h]	18	530	479	878	717	19	33	56	17	335	95	515

**Intersection Settings**

Cycle Length [s]	95											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Split	Split	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	23	0	27	41	0	0	19	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.02	0.30	0.30	0.24	0.52	0.52	0.06	0.06	0.23		
(v / s)_i Volume / Saturation Flow Rate	0.01	0.15	0.30	0.25	0.20	0.01	0.02	0.04	0.24		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	1781	3560	1589	3514	3560	1615	1810	1825	1829		
c, Capacity [veh/h]	38	1066	476	850	1852	840	107	108	423		
X, volume / capacity	0.48	0.50	1.01	1.03	0.39	0.02	0.31	0.68	1.02		
d, Delay for Lane Group [s/veh]	55.09	29.09	76.20	59.69	14.33	11.13	44.54	51.16	72.31		
Lane Group LOS	E	C	F	F	B	B	D	D	F		

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	0.51	5.11	16.27	12.40	4.54	0.20	0.79	1.89	13.80
50th-Percentile Queue Length [ft/ln]	12.82	127.64	406.79	310.02	113.48	4.98	19.68	47.23	344.92
95th-Percentile Queue Length [veh/ln]	0.92	8.81	22.98	18.51	8.03	0.36	1.42	3.40	20.07
95th-Percentile Queue Length [ft/ln]	23.07	220.28	574.55	462.66	200.83	8.97	35.42	85.01	501.63

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	55.09	29.09	76.20	59.69	14.33	11.13	44.54	51.16	51.16	72.31	72.31	0.00
Movement LOS	E	C	F	F	B	B	D	D	D	E	E	
Critical Movement	No	No	Yes	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	51.52			38.97			49.10			72.31		
Approach LOS	D			D			D			E		
d_I, Intersection Delay [s/veh]	47.88											
Intersection LOS	D											
Intersection V/C	0.826											

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Option 3: OY 2 2nd WB Left

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	785	82	9	691	4	7	46	261	282	69	52
Total Analysis Volume [veh/h]	85	967	64	9	1123	4	7	48	201	291	71	54

Intersection Settings

Cycle Length [s]	145											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	87	0	9	84	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.64	0.64	0.01	0.60	0.60	0.14	0.14	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.52	0.04	0.01	0.60	0.00	0.03	0.12	0.08	0.07	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	1810	1870	1615	1781	1870	1589	1888	1615	3514	1765	
c, Capacity [veh/h]	101	1196	1033	20	1112	945	262	224	353	177	
X, volume / capacity	0.84	0.81	0.06	0.45	1.01	0.00	0.21	0.90	0.82	0.70	
d, Delay for Lane Group [s/veh]	84.49	25.48	9.93	86.19	58.74	11.94	55.80	77.94	68.79	68.15	
Lane Group LOS	F	C	A	F	F	B	E	E	E	E	

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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	3.60	25.26	0.81	0.42	45.92	0.06	1.83	8.33	5.53	4.73
50th-Percentile Queue Length [ft/ln]	90.07	631.47	20.19	10.44	1147.95	1.40	45.76	208.19	138.19	118.34
95th-Percentile Queue Length [veh/ln]	6.49	33.50	1.45	0.75	57.53	0.10	3.29	13.06	9.38	8.30
95th-Percentile Queue Length [ft/ln]	162.13	837.53	36.35	18.79	1438.26	2.52	82.37	326.50	234.59	207.55

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	84.49	25.48	9.93	86.19	58.74	11.94	55.80	55.80	77.94	68.79	68.15	68.15
Movement LOS	F	C	A	F	F	B	E	E	E	E	E	E
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	29.09			58.79			73.18			68.60		
Approach LOS	C			E			E			E		
d_I, Intersection Delay [s/veh]	50.11											
Intersection LOS	D											
Intersection V/C	0.855											

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## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 11 2040 AM + P

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**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.778	41.9	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	SB Left	0.560	35.2	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.370	4.7	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	0.470	21.8	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.754	16.2	C
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Right	1.141	78.7	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.116	19.7	C
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	SB Left	0.123	20.0	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.111	13.3	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	WB Thru	0.449	10.5	B
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	WB Left	1.003	58.7	E
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.946	62.7	E
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.569	9.4	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.732	39.7	D
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.524	14.0	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	SB Right	2.175	118.9	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.460	9.3	A
			HCM 6th				



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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.592	14.0	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.778	25.9	C
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	SB Left	0.850	55.0	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.725	26.1	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.586	18.9	B
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.406	11.5	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.456	11.1	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.679	23.3	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.004	8.5	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	SB Thru	0.082	9.5	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.032	9.3	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.009	12.8	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.014	11.5	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.366	5.1	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.008	12.4	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.005	9.1	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.004	9.0	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.002	9.2	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.009	11.8	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.008	8.6	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.006	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	41.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.778

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	633	801	489	972	728	1222	1074	0	571	413	0	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	19	8	0	0	32	0	0	0	80	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	122	0	0	306	0	0	163	0	0	177
Total Hourly Volume [veh/h]	652	809	367	972	760	916	1074	0	488	413	0	530
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	172	213	97	256	200	241	283	0	128	109	0	139
Total Analysis Volume [veh/h]	686	852	386	1023	800	964	1131	0	514	435	0	558
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	2		3			3			1			
v_ci, Inbound Pedestrian Volume crossing mi	1		3			3			2			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	32	0	40	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	31	36	40	41	41
g / C, Green / Cycle	0.22	0.26	0.30	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.20	0.16	0.29	0.15	0.32	0.12
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	771	1334	1053	1749	1203	1203
d1, Uniform Delay [s]	45.36	39.53	41.46	31.08	38.21	29.57
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.77	2.35	7.78	0.86	4.35	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.89	0.64	0.97	0.46	0.94	0.36
d, Delay for Lane Group [s/veh]	49.13	41.89	49.24	31.94	42.55	29.75
Lane Group LOS	D	D	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	10.06	7.57	15.72	6.12	15.25	4.35
50th-Percentile Queue Length [ft/ln]	251.46	189.21	393.08	153.06	381.21	108.83
95th-Percentile Queue Length [veh/ln]	15.26	12.08	22.23	10.18	21.65	7.78
95th-Percentile Queue Length [ft/ln]	381.49	302.00	555.66	254.51	541.31	194.38

**Movement, Approach, & Intersection Results**

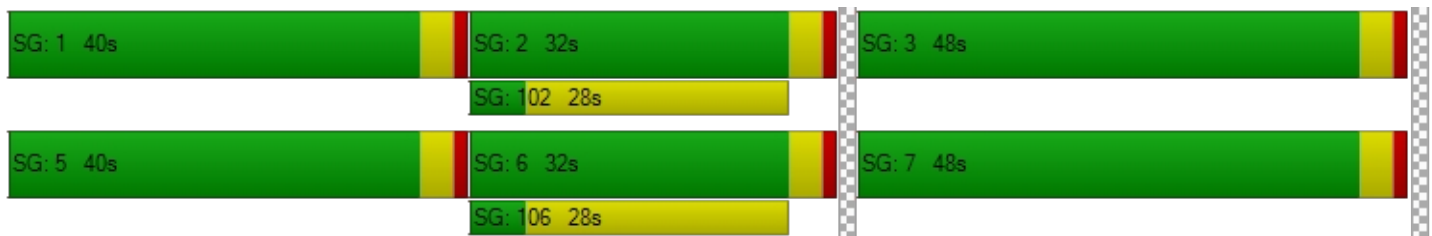
d_M, Delay for Movement [s/veh]	49.13	41.89	0.00	49.24	31.94	0.00	42.55	0.00	0.00	29.75	0.00	0.00
Movement LOS	D	D		D	C		D			C		
d_A, Approach Delay [s/veh]	45.12			41.65			42.55			29.75		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	41.89											
Intersection LOS	D											
Intersection V/C	0.778											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			51.30			51.30		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.108			2.981		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	467			467			734			734		
d_b, Bicycle Delay [s]	35.23			35.23			24.04			24.04		
I_b,int, Bicycle LOS Score for Intersection	2.406			2.562			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	35.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	280	1249	88	550	954	307	309	271	101	49	348	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	27	0	0	112	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	77	0	0	25	0	0	88
Total Hourly Volume [veh/h]	280	1276	66	550	1066	230	309	271	76	49	348	262
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	336	17	145	281	61	81	71	20	13	92	69
Total Analysis Volume [veh/h]	295	1343	69	579	1122	242	325	285	80	52	366	276
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	28	40	0	24	36	0	16	46	0	10	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	13	57	57	20	64	64	12	23	23	4	15	39
g / C, Green / Cycle	0.10	0.47	0.47	0.17	0.54	0.54	0.10	0.19	0.19	0.03	0.13	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.20	0.20	0.16	0.25	0.26	0.09	0.08	0.05	0.01	0.10	0.10
s, saturation flow rate [veh/h]	3514	5176	1840	3514	3618	1734	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	367	2444	869	587	1934	927	353	696	311	124	460	936
d1, Uniform Delay [s]	52.55	20.93	20.94	49.88	17.43	17.49	53.52	42.50	41.19	56.72	50.90	30.07
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.12	0.55	1.53	14.52	0.84	1.78	9.92	0.39	0.43	2.27	3.20	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.43	0.43	0.99	0.48	0.48	0.92	0.41	0.26	0.42	0.80	0.30
d, Delay for Lane Group [s/veh]	56.67	21.48	22.47	64.40	18.27	19.27	63.44	42.89	41.63	58.99	54.09	30.25
Lane Group LOS	E	C	C	E	B	B	E	D	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.41	6.12	6.76	9.65	7.72	7.73	5.22	3.65	2.00	0.79	5.36	2.87
50th-Percentile Queue Length [ft/ln]	110.21	152.90	169.07	241.37	192.92	193.28	130.50	91.28	50.10	19.70	133.98	71.77
95th-Percentile Queue Length [veh/ln]	7.85	10.17	11.03	14.75	12.27	12.29	8.97	6.57	3.61	1.42	9.16	5.17
95th-Percentile Queue Length [ft/ln]	196.29	254.29	275.69	368.77	306.82	307.28	224.17	164.31	90.17	35.47	228.89	129.19

**Movement, Approach, & Intersection Results**

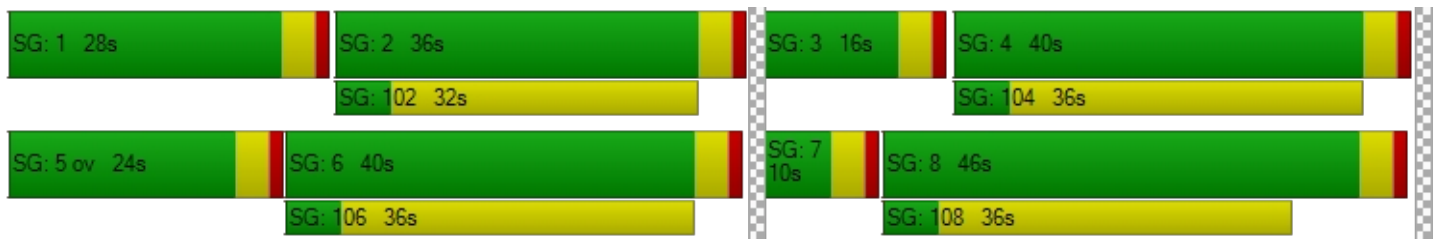
d_M, Delay for Movement [s/veh]	56.67	21.70	22.47	64.40	18.45	19.27	63.44	42.89	41.63	58.99	54.09	30.25
Movement LOS	E	C	C	E	B	B	E	D	D	E	D	C
d_A, Approach Delay [s/veh]	27.77			32.25			52.42			44.98		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.25											
Intersection LOS	D											
Intersection V/C	0.560											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.35	51.35	51.35	51.35
I_p,int, Pedestrian LOS Score for Intersection	3.439	3.559	3.086	3.303
Crosswalk LOS	C	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	533	700	600
d_b, Bicycle Delay [s]	29.41	32.28	25.36	29.41
I_b,int, Bicycle LOS Score for Intersection	2.273	2.671	2.149	2.205
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.370

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1525	23	79	983	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	0	112	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1552	17	79	1095	10	47
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	408	4	21	288	3	12
Total Analysis Volume [veh/h]	1634	18	83	1153	11	49
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Version 2021 (SP 0-2)

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	24	0	9	33	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	50	50	4	59	4	4
g / C, Green / Cycle	0.72	0.72	0.06	0.84	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.32	0.01	0.02	0.22	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3722	1161	207	4322	92	82
d1, Uniform Delay [s]	4.04	2.80	31.81	1.23	31.78	32.57
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.38	0.02	1.26	0.15	0.57	6.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.44	0.02	0.40	0.27	0.12	0.60
d, Delay for Lane Group [s/veh]	4.42	2.82	33.07	1.38	32.35	39.31
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.44	0.04	0.69	0.22	0.19	0.94
50th-Percentile Queue Length [ft/ln]	35.98	0.95	17.32	5.38	4.68	23.56
95th-Percentile Queue Length [veh/ln]	2.59	0.07	1.25	0.39	0.34	1.70
95th-Percentile Queue Length [ft/ln]	64.76	1.70	31.17	9.68	8.43	42.40



**Movement, Approach, & Intersection Results**

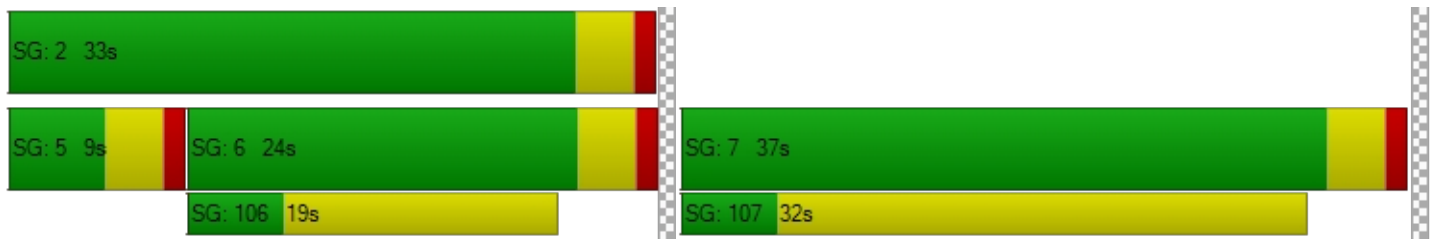
d_M, Delay for Movement [s/veh]	4.42	2.82	33.07	1.38	32.35	39.31
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	4.40		3.51		38.03	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.71					
Intersection LOS	A					
Intersection V/C	0.370					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.072	2.187
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	828	942
d_b, Bicycle Delay [s]	17.89	12.03	9.80
I_b,int, Bicycle LOS Score for Intersection	2.472	2.239	1.560
Bicycle LOS	B	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.470

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1256	64	58	854	65	148	101	75	86	103	132
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	112	0	0	0	0	0	0	0	27
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	16	0	0	19	0	0	40
Total Hourly Volume [veh/h]	134	1256	48	170	854	49	148	101	56	86	103	119
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	331	13	45	225	13	39	27	15	23	27	31
Total Analysis Volume [veh/h]	141	1322	51	179	899	52	156	106	59	91	108	125
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	51	51	5	51	51	9	12	12	6	9	9
g / C, Green / Cycle	0.06	0.56	0.56	0.06	0.56	0.56	0.10	0.14	0.14	0.07	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.03	0.05	0.17	0.17	0.09	0.03	0.04	0.05	0.03	0.08
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1847	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	2905	907	199	2031	1037	182	502	224	119	376	168
d1, Uniform Delay [s]	41.81	11.65	8.96	42.29	10.50	10.51	39.91	34.45	34.71	41.43	37.31	39.24
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	0.52	0.12	13.65	0.40	0.78	10.87	0.21	0.62	9.68	0.42	6.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.46	0.06	0.90	0.31	0.31	0.86	0.21	0.26	0.76	0.29	0.74
d, Delay for Lane Group [s/veh]	46.44	12.17	9.08	55.94	10.90	11.28	50.77	34.65	35.32	51.11	37.73	45.63
Lane Group LOS	D	B	A	E	B	B	D	C	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.65	4.91	0.45	2.33	3.18	3.37	3.90	1.03	1.18	2.29	1.11	2.95
50th-Percentile Queue Length [ft/ln]	41.27	122.77	11.36	58.31	79.57	84.15	97.53	25.85	29.55	57.14	27.75	73.68
95th-Percentile Queue Length [veh/ln]	2.97	8.54	0.82	4.20	5.73	6.06	7.02	1.86	2.13	4.11	2.00	5.30
95th-Percentile Queue Length [ft/ln]	74.28	213.62	20.45	104.96	143.23	151.47	175.55	46.53	53.19	102.84	49.95	132.62

**Movement, Approach, & Intersection Results**

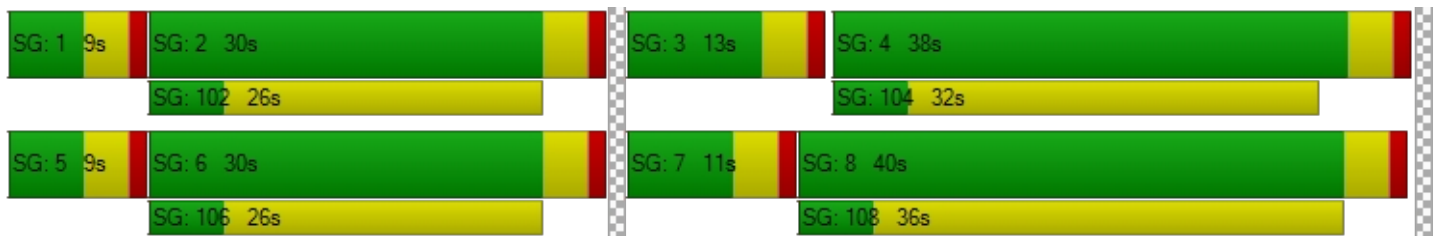
d_M, Delay for Movement [s/veh]	46.44	12.17	9.08	55.94	11.02	11.28	50.77	34.65	35.32	51.11	37.73	45.63
Movement LOS	D	B	A	E	B	B	D	C	D	D	D	D
d_A, Approach Delay [s/veh]	15.26			18.14			42.61			44.53		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	21.80											
Intersection LOS	C											
Intersection V/C	0.470											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.155	3.090	2.588	2.628
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	799	755
d_b, Bicycle Delay [s]	22.80	22.80	16.24	17.46
I_b,int, Bicycle LOS Score for Intersection	2.401	2.190	1.840	1.860
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.754

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	5	3	6	13	0	12	13	442	5	8	224	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	0	8	0	0	0	0	70	57	31	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	3	14	13	0	12	13	512	62	39	241	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	1	4	3	0	3	3	135	16	10	63	3
Total Analysis Volume [veh/h]	20	3	15	14	0	13	14	539	65	41	254	11
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	614	617	820	757
Degree of Utilization, x	0.06	0.04	0.75	0.40

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.20	0.14	7.16	1.97
95th-Percentile Queue Length [ft]	4.94	3.43	178.89	49.22
Approach Delay [s/veh]	9.25	9.11	19.51	10.95
Approach LOS	A	A	C	B
Intersection Delay [s/veh]	16.18			
Intersection LOS	C			



**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	78.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.141

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	75	320	59	9	192	7	14	154	265	96	128	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	4	4	0	16	0	0	39	39	16	39	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	324	63	9	208	7	14	193	304	112	167	25
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	85	17	2	55	2	4	51	80	29	44	7
Total Analysis Volume [veh/h]	88	341	66	9	219	7	15	203	320	118	176	26
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	495	403	538	424
Degree of Utilization, x	1.09	0.58	1.14	0.76

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	16.47	3.57	18.95	6.25
95th-Percentile Queue Length [ft]	411.79	89.28	473.74	156.37
Approach Delay [s/veh]	97.38	23.60	112.50	33.43
Approach LOS	F	C	F	D
Intersection Delay [s/veh]	78.69			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	19.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.116

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	299	39	22	239	37	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	16	32	4	4	127
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	315	55	54	243	41	224
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	14	14	64	11	59
Total Analysis Volume [veh/h]	332	58	57	256	43	236
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.05	0.00	0.12	0.34
d_M, Delay for Movement [s/veh]	0.00	0.00	8.21	0.00	19.67	15.17
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.15	0.15	2.41	2.41
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.80	3.80	60.17	60.17
d_A, Approach Delay [s/veh]	0.00		1.49		15.86	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	4.98					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	20.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.123

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	10	10	39	34	12	42	5	250	6	10	340	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	0	0	0	0	12	31	0	48	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	10	39	34	12	42	5	262	37	10	388	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	10	9	3	11	1	69	10	3	102	3
Total Analysis Volume [veh/h]	19	11	41	36	13	44	5	276	39	11	408	11
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.03	0.05	0.12	0.04	0.07	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	19.01	17.05	11.22	19.96	18.50	13.25	8.14	0.00	0.00	7.89	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.54	0.54	0.54	0.88	0.88	0.88	0.01	0.01	0.01	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	13.48	13.48	13.48	21.98	21.98	21.98	0.33	0.33	0.33	0.66	0.66	0.66
d_A, Approach Delay [s/veh]	14.21			16.58			0.13			0.20		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.93											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.111

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	36	4	2	218	104	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	36	143	58
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	4	2	254	247	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	1	1	67	65	17
Total Analysis Volume [veh/h]	54	4	2	267	260	68
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.11	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.31	10.74	7.90	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.39	0.39	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	9.76	9.76	0.12	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	13.13		0.06		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.19					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	7	38	6	14	18	27	8	164	15	3	78	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	14	0	0	0	55	0	0	219	57
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	38	6	28	18	27	8	219	15	3	297	74
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	10	2	7	5	7	2	58	4	1	78	19
Total Analysis Volume [veh/h]	7	40	6	29	19	28	8	231	16	3	313	78
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	658	677	686	795	704	818
Degree of Utilization, x	0.08	0.11	0.35	0.02	0.45	0.10

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.26	0.38	1.56	0.06	2.33	0.32
95th-Percentile Queue Length [ft]	6.54	9.45	39.02	1.54	58.24	7.88
Approach Delay [s/veh]	8.95	8.99	10.51		11.05	
Approach LOS	A	A	B		B	
Intersection Delay [s/veh]	10.53					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	58.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.003

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	386	1196	0	0	1345	1012	0	0	0	358	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	9	0	0	34	0	0	0	0	84	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	253	0	0	0	0	0	122
Total Hourly Volume [veh/h]	406	1205	0	0	1379	759	0	0	0	442	5	364
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	317	0	0	363	200	0	0	0	116	1	96
Total Analysis Volume [veh/h]	427	1268	0	0	1452	799	0	0	0	465	5	383
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	22	63	0	0	41	0	0	0	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	85	85	85	85		85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	18	59	37	37		18	18
g / C, Green / Cycle	0.21	0.69	0.43	0.43		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.25	0.35	0.28	0.49		0.26	0.24
s, saturation flow rate [veh/h]	1714	3618	5176	1615		1810	1615
c, Capacity [veh/h]	364	2510	2249	702		384	343
d1, Uniform Delay [s]	33.51	6.14	18.90	24.05		33.51	33.51
k, delay calibration	0.24	0.50	0.50	0.50		0.26	0.21
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	91.74	0.73	1.44	78.88		112.46	69.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.17	0.51	0.65	1.14		1.22	1.12
d, Delay for Lane Group [s/veh]	125.25	6.87	20.34	102.93		145.97	102.62
Lane Group LOS	F	A	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	16.53	4.50	7.34	28.37		19.67	13.42
50th-Percentile Queue Length [ft/ln]	413.24	112.38	183.47	709.24		491.66	335.45
95th-Percentile Queue Length [veh/ln]	25.17	7.97	11.78	40.62		29.81	20.57
95th-Percentile Queue Length [ft/ln]	629.13	199.31	294.55	1015.59		745.29	514.16

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	125.25	6.87	0.00	0.00	20.34	102.93	0.00	0.00	0.00	145.97	145.97	102.62
Movement LOS	F	A			C	F				F	F	F
d_A, Approach Delay [s/veh]	36.69				49.66		0.00				126.50	
Approach LOS	D				D		A				F	
d_I, Intersection Delay [s/veh]	58.74											
Intersection LOS	E											
Intersection V/C	1.003											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		33.99		33.99	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.437		2.429	
Crosswalk LOS	F		F		B		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1388		870		0		423	
d_b, Bicycle Delay [s]	3.99		13.57		42.52		26.42	
I_b,int, Bicycle LOS Score for Intersection	2.958		2.937		4.132		3.168	
Bicycle LOS	C		C		D		C	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	62.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.946

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	1494	385	487	1257	0	608	4	476	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	21	0	117	0	0	0	82	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	102	0	0	0	0	0	140	0	0	0
Total Hourly Volume [veh/h]	0	1523	304	487	1374	0	608	4	418	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	401	80	128	362	0	160	1	110	0	0	0
Total Analysis Volume [veh/h]	0	1603	320	513	1446	0	640	4	440	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_di, Inbound Pedestrian Volume crossing in		0		0		0		0		0		0
v_co, Outbound Pedestrian Volume crossing		0		0		0		0		0		0
v_ci, Inbound Pedestrian Volume crossing mi		0		0		0		0		0		0
v_ab, Corner Pedestrian Volume [ped/h]		0		0		0		0		0		0
Bicycle Volume [bicycles/h]		0		0		0		0		0		0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	28	56	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	85	85	85	85	85	85	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	24	24	24	52	25	25	
g / C, Green / Cycle	0.28	0.28	0.28	0.61	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.20	0.30	0.40	0.31	0.34	
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1653	
c, Capacity [veh/h]	1462	456	484	2214	504	486	
d1, Uniform Delay [s]	30.54	27.33	30.54	10.68	30.05	30.05	
k, delay calibration	0.50	0.50	0.34	0.50	0.36	0.42	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	54.56	8.71	50.58	1.52	46.50	84.26	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.10	0.70	1.06	0.65	1.05	1.15	
d, Delay for Lane Group [s/veh]	85.11	36.04	81.12	12.20	76.55	114.31	
Lane Group LOS	F	D	F	B	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	16.94	6.72	16.30	8.04	16.37	20.88	
50th-Percentile Queue Length [ft/ln]	423.57	167.98	407.50	200.99	409.18	521.95	
95th-Percentile Queue Length [veh/ln]	25.02	10.97	23.73	12.69	23.65	30.74	
95th-Percentile Queue Length [ft/ln]	625.42	274.26	593.36	317.24	591.25	768.62	

**Movement, Approach, & Intersection Results**

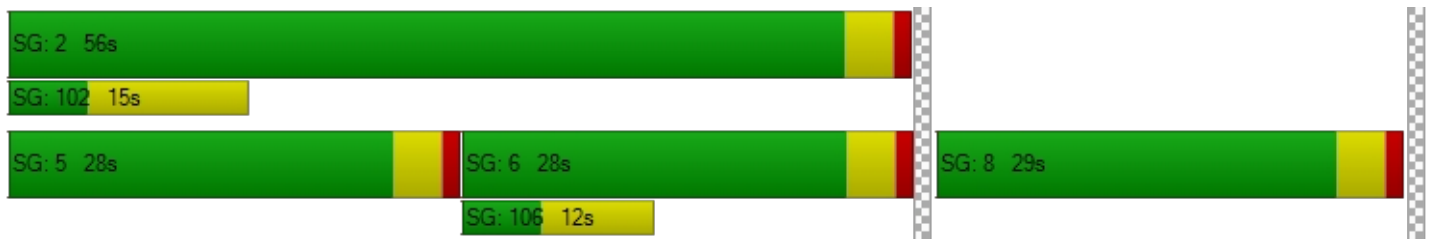
d_M, Delay for Movement [s/veh]	0.00	85.11	36.04	81.12	12.20	0.00	82.60	114.31	114.31	0.00	0.00	0.00
Movement LOS		F	D	F	B		F	F	F			
d_A, Approach Delay [s/veh]		76.94		30.25			95.94			0.00		
Approach LOS		E		C			F			A		
d_I, Intersection Delay [s/veh]		62.67										
Intersection LOS		E										
Intersection V/C		0.946										

**Other Modes**

g_Walk,mi, Effective Walk Time [s]		0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]		0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]		0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]		0.00		0.00		34.01		34.01
I_p,int, Pedestrian LOS Score for Intersection		0.000		0.000		2.536		2.171
Crosswalk LOS		F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane		2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]		564		1223		588		0
d_b, Bicycle Delay [s]		21.92		6.43		21.21		42.53
I_b,int, Bicycle LOS Score for Intersection		2.673		3.176		3.579		4.132
Bicycle LOS		B		C		D		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.569

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1489	4	80	1476	190	103	0	35	0	0	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	49	0	0	199	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	48	0	0	9	0	0	26
Total Hourly Volume [veh/h]	5	1538	3	80	1675	142	103	0	26	0	0	77
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	405	1	21	441	37	27	0	7	0	0	20
Total Analysis Volume [veh/h]	5	1619	3	84	1763	149	108	0	27	0	0	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	12	19	0	0	47	0	0	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	51	51	59	54	54	8	8	8
g / C, Green / Cycle	0.79	0.68	0.68	0.79	0.73	0.73	0.11	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.01	0.43	0.43	0.18	0.49	0.09	0.08	0.02	0.05
s, saturation flow rate [veh/h]	339	1900	1899	464	3618	1615	1338	1615	1615
c, Capacity [veh/h]	331	1286	1285	425	2623	1171	145	173	221
d1, Uniform Delay [s]	4.74	6.85	6.85	5.16	5.53	3.13	32.72	30.46	31.53
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	2.36	2.36	1.04	1.39	0.22	7.25	0.42	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.02	0.63	0.63	0.20	0.67	0.13	0.74	0.16	0.37
d, Delay for Lane Group [s/veh]	4.75	9.21	9.21	6.19	6.93	3.35	39.97	30.88	32.55
Lane Group LOS	A	A	A	A	A	A	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.01	6.27	6.27	0.26	5.37	0.54	2.15	0.45	1.40
50th-Percentile Queue Length [ft/ln]	0.24	156.77	156.76	6.51	134.14	13.42	53.76	11.31	35.12
95th-Percentile Queue Length [veh/ln]	0.02	10.38	10.38	0.47	9.16	0.97	3.87	0.81	2.53
95th-Percentile Queue Length [ft/ln]	0.43	259.43	259.43	11.72	229.11	24.15	96.77	20.35	63.22



**Movement, Approach, & Intersection Results**

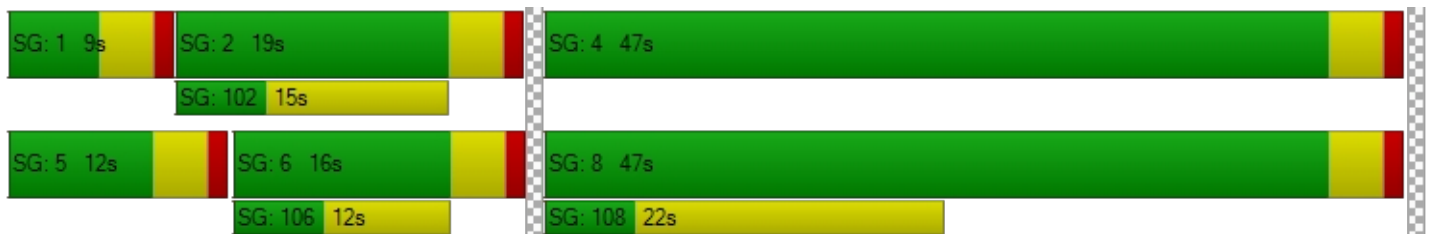
d_M, Delay for Movement [s/veh]	4.75	9.21	9.21	6.19	6.93	3.35	39.97	30.88	30.88	32.55	32.55	32.55
Movement LOS	A	A	A	A	A	A	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.19			6.63			38.15			32.55		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	9.37											
Intersection LOS	A											
Intersection V/C	0.569											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.07	0.00	29.07	29.07
I_p,int, Pedestrian LOS Score for Intersection	2.962	0.000	2.063	1.924
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	320	400	1146	1146
d_b, Bicycle Delay [s]	26.49	24.03	6.84	6.84
I_b,int, Bicycle LOS Score for Intersection	2.903	3.246	1.797	1.736
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	39.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	956	12	314	988	174	205	75	54	10	117	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	49	0	0	199	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	44	0	0	14	0	0	68
Total Hourly Volume [veh/h]	99	1005	9	314	1187	130	205	75	40	10	117	202
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	264	2	83	312	34	54	20	11	3	31	53
Total Analysis Volume [veh/h]	104	1058	9	331	1249	137	216	79	42	11	123	213
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	27	45	0	18	36	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	37	37	22	51	51	14	29	29	1	16	16
g / C, Green / Cycle	0.08	0.35	0.35	0.21	0.48	0.48	0.13	0.27	0.27	0.01	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.06	0.28	0.28	0.19	0.37	0.37	0.13	0.02	0.03	0.01	0.06	0.13
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1835	1714	3618	1615	1714	1900	1615
c, Capacity [veh/h]	130	664	662	360	919	888	229	991	442	24	293	249
d1, Uniform Delay [s]	47.78	30.92	30.92	40.65	22.14	22.40	45.12	28.33	28.45	51.41	40.20	43.30
k, delay calibration	0.11	0.50	0.50	0.21	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.65	9.99	10.02	16.66	5.86	6.55	16.75	0.03	0.09	12.52	0.96	8.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.80	0.80	0.92	0.76	0.77	0.94	0.08	0.09	0.45	0.42	0.85
d, Delay for Lane Group [s/veh]	58.43	40.91	40.94	57.31	27.99	28.94	61.88	28.37	28.55	63.93	41.15	51.48
Lane Group LOS	E	D	D	E	C	C	E	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.05	13.79	13.76	9.94	14.91	14.99	6.60	0.74	0.80	0.37	2.95	5.92
50th-Percentile Queue Length [ft/ln]	76.32	344.71	343.89	248.60	372.68	374.75	165.09	18.60	20.02	9.29	73.64	147.89
95th-Percentile Queue Length [veh/ln]	5.50	19.88	19.84	15.12	21.24	21.34	10.82	1.34	1.44	0.67	5.30	9.90
95th-Percentile Queue Length [ft/ln]	137.38	496.96	495.95	377.88	530.98	533.49	270.45	33.48	36.03	16.71	132.55	247.61

**Movement, Approach, & Intersection Results**

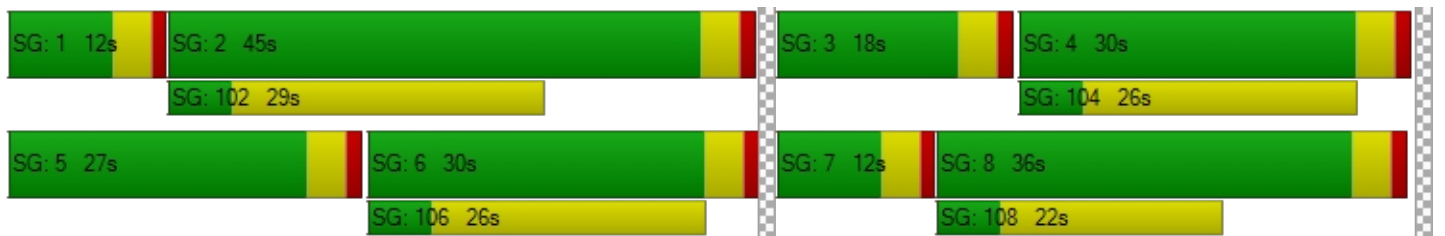
d_M, Delay for Movement [s/veh]	58.43	40.92	40.94	57.31	28.41	28.94	61.88	28.37	28.55	63.93	41.15	51.48
Movement LOS	E	D	D	E	C	C	E	C	C	E	D	D
d_A, Approach Delay [s/veh]	42.48			34.03			49.87			48.21		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	39.67											
Intersection LOS	D											
Intersection V/C	0.732											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.92	43.92	43.92	43.92
I_p,int, Pedestrian LOS Score for Intersection	2.799	3.063	2.729	2.695
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	495	781	609	495
d_b, Bicycle Delay [s]	29.75	19.53	25.40	29.75
I_b,int, Bicycle LOS Score for Intersection	2.528	3.012	1.849	1.902
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.524

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	25	62	875	53	121	63	91	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	38	0	0	152	48	12	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	25	0	0	23	0	0	10
Total Hourly Volume [veh/h]	69	818	19	62	1027	76	133	63	68	10	65	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	215	5	16	270	20	35	17	18	3	17	7
Total Analysis Volume [veh/h]	73	861	20	65	1081	80	140	66	72	11	68	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	33	33	3	32	32	12	12
g / C, Green / Cycle	0.06	0.54	0.54	0.06	0.54	0.54	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.04	0.31	0.31	0.17	0.06
s, saturation flow rate [veh/h]	1714	1900	1885	1714	1900	1854	1621	1831
c, Capacity [veh/h]	102	1032	1024	96	1025	1001	416	434
d1, Uniform Delay [s]	27.74	8.17	8.17	27.81	9.21	9.22	22.85	20.40
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.82	1.30	1.31	7.92	2.32	2.39	1.87	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.43	0.43	0.67	0.57	0.57	0.67	0.25
d, Delay for Lane Group [s/veh]	36.56	9.47	9.48	35.73	11.53	11.61	24.72	20.70
Lane Group LOS	D	A	A	D	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.23	3.10	3.08	1.08	4.73	4.64	3.69	1.18
50th-Percentile Queue Length [ft/ln]	30.69	77.44	76.90	27.03	118.18	116.03	92.18	29.58
95th-Percentile Queue Length [veh/ln]	2.21	5.58	5.54	1.95	8.29	8.17	6.64	2.13
95th-Percentile Queue Length [ft/ln]	55.23	139.39	138.41	48.66	207.32	204.35	165.93	53.25

**Movement, Approach, & Intersection Results**

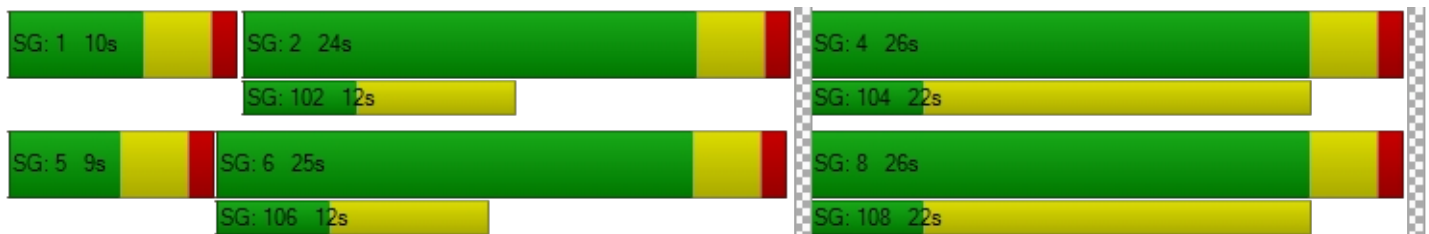
d_M, Delay for Movement [s/veh]	36.56	9.48	9.48	35.73	11.57	11.61	24.72	24.72	24.72	20.70	20.70	20.70
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.55			12.85			24.72			20.70		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.98											
Intersection LOS	B											
Intersection V/C	0.524											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.70	21.70	21.70	21.70
I_p,int, Pedestrian LOS Score for Intersection	2.723	2.962	1.995	1.889
Crosswalk LOS	B	C	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	700	666	733	733
d_b, Bicycle Delay [s]	12.69	13.35	12.05	12.05
I_b,int, Bicycle LOS Score for Intersection	2.352	2.592	2.056	1.754
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	118.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.175

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	34	759	107	92	1069	23	59	68	116	80	44	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	108	0	0	0	0	152	38	4	27	0	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	27	0	0	44	0	0	36	0	0	12
Total Hourly Volume [veh/h]	142	759	80	92	1069	131	97	72	107	80	60	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	200	21	24	281	34	26	19	28	21	16	10
Total Analysis Volume [veh/h]	149	799	84	97	1125	138	102	76	113	84	63	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	16	16	4	15	15	28	28	28	28
g / C, Green / Cycle	0.08	0.26	0.26	0.07	0.25	0.25	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.09	0.24	0.24	0.06	0.34	0.34	1.75	0.07	1.44	0.02
s, saturation flow rate [veh/h]	1714	1900	1837	1714	1900	1828	102	1615	102	1615
c, Capacity [veh/h]	143	503	486	122	480	462	142	750	142	750
d1, Uniform Delay [s]	27.50	21.25	21.25	27.42	22.42	22.42	20.97	9.26	20.93	8.83
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	46.66	20.87	21.42	10.89	165.44	169.34	160.42	0.09	85.59	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.04	0.89	0.89	0.79	1.34	1.35	1.26	0.15	1.04	0.05
d, Delay for Lane Group [s/veh]	74.16	42.11	42.67	38.31	187.86	191.77	181.39	9.36	106.51	8.86
Lane Group LOS	F	D	D	D	F	F	F	A	F	A
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	3.78	8.44	8.23	1.66	28.21	27.65	8.26	0.75	5.33	0.25
50th-Percentile Queue Length [ft/ln]	94.59	210.88	205.82	41.62	705.32	691.24	206.56	18.78	133.16	6.17
95th-Percentile Queue Length [veh/ln]	6.81	13.20	12.94	3.00	42.85	42.18	14.72	1.35	9.31	0.44
95th-Percentile Queue Length [ft/ln]	170.27	329.95	323.46	74.92	1071.33	1054.50	367.98	33.81	232.71	11.10

**Movement, Approach, & Intersection Results**

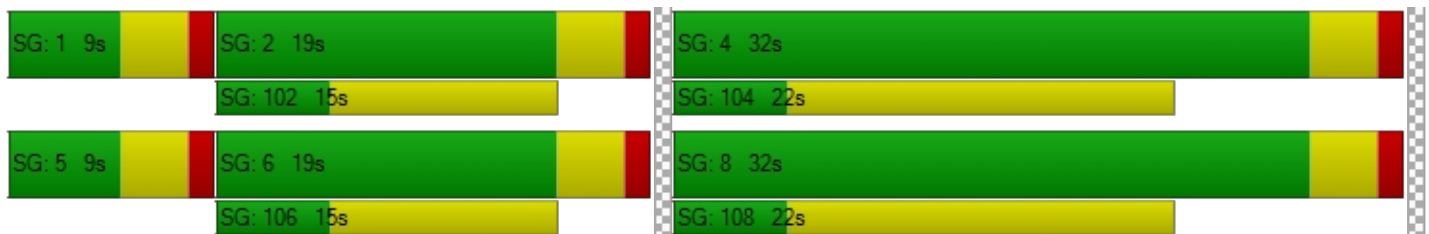
d_M, Delay for Movement [s/veh]	74.16	42.36	42.67	38.31	189.54	191.77	181.39	181.39	9.36	106.51	106.51	8.86
Movement LOS	F	D	D	D	F	F	F	F	A	F	F	A
d_A, Approach Delay [s/veh]	46.98			178.98			114.58			86.04		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	118.94											
Intersection LOS	F											
Intersection V/C	2.175											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.910	2.948	2.206	2.095
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	933	933
d_b, Bicycle Delay [s]	16.88	16.88	8.53	8.53
I_b,int, Bicycle LOS Score for Intersection	2.433	2.718	2.099	1.886
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.460

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	28	769	1	19	1167	28	109	30	35	24	19	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	108	0	0	27	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	7	0	0	9	0	0	5
Total Hourly Volume [veh/h]	28	877	1	19	1194	21	109	30	26	24	19	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	231	0	5	314	6	29	8	7	6	5	4
Total Analysis Volume [veh/h]	29	923	1	20	1257	22	115	32	27	25	20	16
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	39	39	1	38	38	8	8
g / C, Green / Cycle	0.03	0.65	0.65	0.02	0.64	0.64	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.24	0.01	0.34	0.34	0.11	0.03
s, saturation flow rate [veh/h]	1714	1900	1899	1714	1900	1889	1650	1772
c, Capacity [veh/h]	57	1223	1223	42	1207	1200	317	318
d1, Uniform Delay [s]	28.57	5.04	5.04	28.91	6.03	6.03	25.08	23.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.96	0.89	0.89	7.93	1.68	1.69	1.48	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.38	0.38	0.47	0.53	0.53	0.55	0.19
d, Delay for Lane Group [s/veh]	35.53	5.93	5.93	36.84	7.71	7.72	26.56	23.72
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.50	2.15	2.15	0.36	3.63	3.61	2.37	0.76
50th-Percentile Queue Length [ft/ln]	12.51	53.81	53.79	9.11	90.71	90.34	59.34	18.97
95th-Percentile Queue Length [veh/ln]	0.90	3.87	3.87	0.66	6.53	6.50	4.27	1.37
95th-Percentile Queue Length [ft/ln]	22.52	96.85	96.82	16.39	163.28	162.62	106.81	34.15

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	35.53	5.93	5.93	36.84	7.71	7.72	26.56	26.56	26.56	23.72	23.72	23.72
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.83			8.16			26.56			23.72		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.32											
Intersection LOS	A											
Intersection V/C	0.460											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.759			2.915			1.836			1.761		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.346			2.637			1.862			1.669		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.592

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	172	713	13	27	1316	100	34	18	97	71	49	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	92	0	0	23	4	16	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	26	0	0	24	0	0	4
Total Hourly Volume [veh/h]	172	805	10	27	1339	78	50	18	73	71	49	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	212	3	7	352	21	13	5	19	19	13	3
Total Analysis Volume [veh/h]	181	847	11	28	1409	82	53	19	77	75	52	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	21	0	9	18	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	39	39	2	34	34	7	7
g / C, Green / Cycle	0.13	0.66	0.66	0.03	0.56	0.56	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.11	0.23	0.23	0.02	0.39	0.40	0.09	0.09
s, saturation flow rate [veh/h]	1714	1900	1891	1714	1900	1864	1728	1558
c, Capacity [veh/h]	225	1246	1240	57	1060	1039	274	266
d1, Uniform Delay [s]	25.38	4.61	4.61	28.58	9.72	9.76	25.98	26.02
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.59	0.76	0.76	6.40	4.00	4.16	1.68	1.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.35	0.35	0.49	0.71	0.71	0.54	0.52
d, Delay for Lane Group [s/veh]	31.97	5.36	5.37	34.98	13.72	13.92	27.66	27.61
Lane Group LOS	C	A	A	C	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.77	1.85	1.84	0.48	6.74	6.72	2.07	1.94
50th-Percentile Queue Length [ft/ln]	69.14	46.15	45.98	11.97	168.62	167.90	51.85	48.46
95th-Percentile Queue Length [veh/ln]	4.98	3.32	3.31	0.86	11.00	10.97	3.73	3.49
95th-Percentile Queue Length [ft/ln]	124.45	83.08	82.76	21.55	275.10	274.15	93.33	87.23

**Movement, Approach, & Intersection Results**

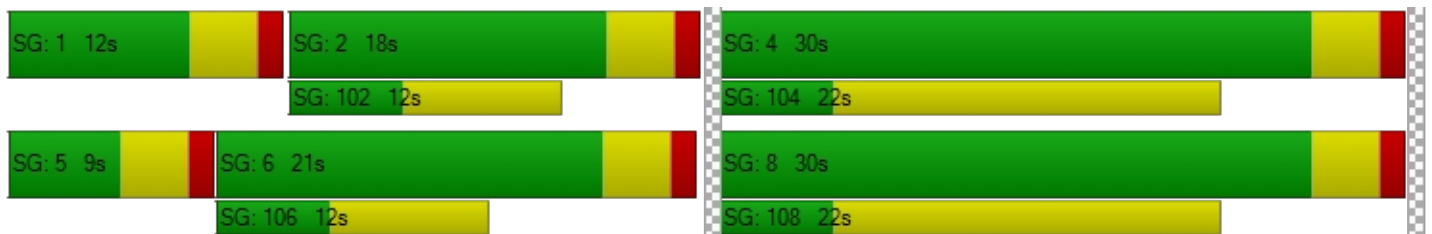
d_M, Delay for Movement [s/veh]	31.97	5.37	5.37	34.98	13.81	13.92	27.66	27.66	27.66	27.61	27.61	27.61
Movement LOS	C	A	A	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	10.00			14.21			27.66			27.61		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.03											
Intersection LOS	B											
Intersection V/C	0.592											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.904			2.873			1.980			1.801		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	566			466			865			865		
d_b, Bicycle Delay [s]	15.45			17.67			9.67			9.67		
I_b,int, Bicycle LOS Score for Intersection	2.419			2.834			1.845			1.796		
Bicycle LOS	B			C			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.778

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	640	171	295	1162	6	8	0	10	342	1	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	92	0	0	23	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	43	0	0	2	0	0	3	0	0	22
Total Hourly Volume [veh/h]	4	732	128	295	1185	4	8	0	7	342	1	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	193	34	78	312	1	2	0	2	90	0	17
Total Analysis Volume [veh/h]	4	771	135	311	1247	4	8	0	7	360	1	69
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	26	0	18	32	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	22	22	14	36	36	22	22	22
g / C, Green / Cycle	0.01	0.31	0.31	0.20	0.51	0.51	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.00	0.24	0.24	0.18	0.33	0.33	0.10	0.35	0.04
s, saturation flow rate [veh/h]	1714	1900	1803	1714	1900	1898	143	1027	1615
c, Capacity [veh/h]	12	597	567	344	965	964	124	425	507
d1, Uniform Delay [s]	34.65	21.82	21.82	27.38	12.66	12.66	19.57	25.25	17.24
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.32	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.16	9.64	10.13	8.89	3.37	3.38	0.43	12.85	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.33	0.78	0.78	0.90	0.65	0.65	0.12	0.85	0.14
d, Delay for Lane Group [s/veh]	49.81	31.46	31.95	36.27	16.03	16.04	20.01	38.11	17.36
Lane Group LOS	D	C	C	D	B	B	C	D	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.12	8.04	7.70	5.67	7.14	7.14	0.17	7.35	0.77
50th-Percentile Queue Length [ft/ln]	2.92	200.93	192.58	141.66	178.45	178.40	4.33	183.75	19.28
95th-Percentile Queue Length [veh/ln]	0.21	12.69	12.26	9.57	11.52	11.52	0.31	11.80	1.39
95th-Percentile Queue Length [ft/ln]	5.26	317.16	306.38	239.26	287.99	287.92	7.80	294.91	34.71

**Movement, Approach, & Intersection Results**

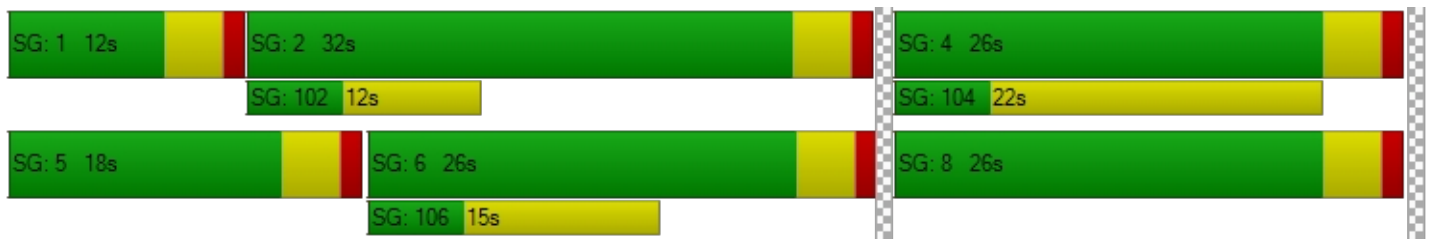
d_M, Delay for Movement [s/veh]	49.81	31.65	31.95	36.27	16.03	16.04	20.01	20.01	20.01	38.11	38.11	17.36
Movement LOS	D	C	C	D	B	B	C	C	C	D	D	B
d_A, Approach Delay [s/veh]	31.78			20.06			20.01			34.78		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	25.89											
Intersection LOS	C											
Intersection V/C	0.778											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.778	1.722	2.266
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	799	628	628
d_b, Bicycle Delay [s]	16.49	12.63	16.49	16.49
I_b,int, Bicycle LOS Score for Intersection	2.346	2.850	1.589	2.305
Bicycle LOS	B	C	A	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	55.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.850

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		



**Volumes**

Name												
Base Volume Input [veh/h]	66	355	417	560	782	43	34	70	49	315	117	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	17	6	0	0	0	0	0	0	67
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	104	0	0	11	0	0	12	0	0	137
Total Hourly Volume [veh/h]	66	380	313	577	788	32	34	70	37	315	117	411
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	100	82	152	207	8	9	18	10	83	31	108
Total Analysis Volume [veh/h]	69	400	329	607	829	34	36	74	39	332	123	433
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	33	24	0	34	25	0	0	10	0	0	27	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	20	20	30	45	45	6	6	23
g / C, Green / Cycle	0.05	0.21	0.21	0.32	0.48	0.48	0.06	0.06	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.20	0.34	0.23	0.02	0.02	0.06	0.25
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1791	1833
c, Capacity [veh/h]	92	766	342	571	1724	770	113	112	444
d1, Uniform Delay [s]	44.53	33.20	37.09	32.54	16.90	13.31	42.65	44.58	36.03
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.29
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.50	2.54	39.87	55.47	0.96	0.11	1.61	42.73	39.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.52	0.96	1.06	0.48	0.04	0.32	1.01	1.03
d, Delay for Lane Group [s/veh]	56.03	35.74	76.96	88.01	17.86	13.42	44.26	87.30	75.45
Lane Group LOS	E	D	E	F	B	B	D	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.89	4.30	11.20	21.46	6.11	0.40	0.85	3.93	14.88
50th-Percentile Queue Length [ft/ln]	47.13	107.59	280.02	536.53	152.83	10.08	21.33	98.17	372.06
95th-Percentile Queue Length [veh/ln]	3.39	7.71	16.69	30.23	10.17	0.73	1.54	7.07	21.52
95th-Percentile Queue Length [ft/ln]	84.83	192.64	417.24	755.86	254.20	18.14	38.40	176.71	538.05

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.03	35.74	76.96	88.01	17.86	13.42	44.26	87.30	87.30	75.45	75.45	0.00
Movement LOS	E	D	E	F	B	B	D	F	F	E	E	
d_A, Approach Delay [s/veh]	54.49			46.73			76.90			75.45		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	55.00											
Intersection LOS	D											
Intersection V/C	0.850											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	421			442			126			484		
d_b, Bicycle Delay [s]	29.62			28.84			41.71			27.30		
I_b,int, Bicycle LOS Score for Intersection	2.304			2.781			1.825			2.310		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	26.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	6	280	22	383	416	573	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	17	0	0	67	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	96	0	0	5	0	0	55
Total Hourly Volume [veh/h]	9	5	4	280	22	287	416	590	16	5	618	166
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	74	6	76	109	155	4	1	163	44
Total Analysis Volume [veh/h]	9	5	4	295	23	302	438	621	17	5	651	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	26	35	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	27	27	20	35	35	1	16	16
g / C, Green / Cycle	0.37	0.37	0.37	0.27	0.47	0.47	0.01	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.05	0.30	0.19	0.24	0.17	0.01	0.00	0.18	0.11
s, saturation flow rate [veh/h]	353	1051	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	201	477	592	482	1685	752	15	750	335
d1, Uniform Delay [s]	18.39	22.16	18.55	26.66	12.94	10.83	37.04	28.77	26.46
k, delay calibration	0.50	0.50	0.50	0.16	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.88	7.18	3.13	9.68	0.13	0.01	12.84	3.22	1.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.09	0.67	0.51	0.91	0.37	0.02	0.34	0.87	0.52
d, Delay for Lane Group [s/veh]	19.26	29.34	21.68	36.34	13.08	10.85	49.89	31.99	27.72
Lane Group LOS	B	C	C	D	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.24	5.78	4.35	8.47	3.12	0.14	0.14	5.75	2.79
50th-Percentile Queue Length [ft/ln]	5.92	144.49	108.77	211.81	77.99	3.60	3.55	143.64	69.81
95th-Percentile Queue Length [veh/ln]	0.43	9.72	7.77	13.25	5.62	0.26	0.26	9.68	5.03
95th-Percentile Queue Length [ft/ln]	10.66	243.06	194.30	331.14	140.38	6.48	6.39	241.92	125.66



**Movement, Approach, & Intersection Results**

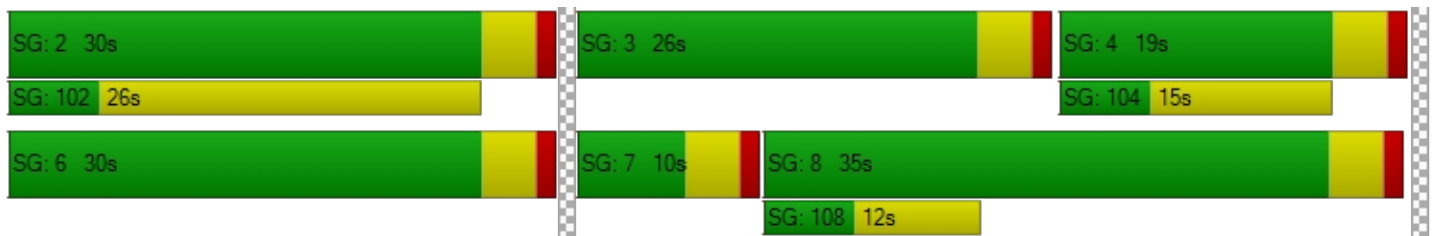
d_M, Delay for Movement [s/veh]	19.26	19.26	19.26	29.34	29.34	21.68	36.34	13.08	10.85	49.89	31.99	27.72
Movement LOS	B	B	B	C	C	C	D	B	B	D	C	C
d_A, Approach Delay [s/veh]	19.26			25.61			22.51			31.20		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	26.08											
Intersection LOS	C											
Intersection V/C	0.725											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.07	29.07	29.07	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.744	2.521	2.813	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	826	400
d_b, Bicycle Delay [s]	16.03	16.03	12.93	24.03
I_b,int, Bicycle LOS Score for Intersection	1.593	2.741	2.451	2.291
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	773	203	38	786	0	4	31	82	101	17	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	67	0	0	17	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	21	0	0	6
Total Hourly Volume [veh/h]	58	840	152	38	803	0	4	31	61	101	17	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	221	40	10	211	0	1	8	16	27	4	4
Total Analysis Volume [veh/h]	61	884	160	40	845	0	4	33	64	106	18	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	22	0	9	19	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	50	50	3	49	49	5	5	7	7
g / C, Green / Cycle	0.05	0.62	0.62	0.04	0.61	0.61	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.47	0.10	0.02	0.44	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	1810	1750
c, Capacity [veh/h]	87	1174	998	70	1156	983	115	99	150	145
d1, Uniform Delay [s]	37.62	10.95	6.50	37.92	11.07	0.00	36.06	36.82	35.82	34.41
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.88	4.49	0.34	7.29	4.09	0.00	1.58	6.97	5.93	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.75	0.16	0.58	0.73	0.00	0.32	0.65	0.71	0.24
d, Delay for Lane Group [s/veh]	47.51	15.44	6.84	45.21	15.17	0.00	37.64	43.79	41.75	35.26
Lane Group LOS	D	B	A	D	B	A	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	10.67	1.08	0.90	10.12	0.00	0.73	1.39	2.22	0.66
50th-Percentile Queue Length [ft/ln]	34.86	266.87	27.12	22.47	252.89	0.00	18.27	34.81	55.55	16.51
95th-Percentile Queue Length [veh/ln]	2.51	16.03	1.95	1.62	15.33	0.00	1.32	2.51	4.00	1.19
95th-Percentile Queue Length [ft/ln]	62.75	400.82	48.82	40.45	383.29	0.00	32.89	62.65	100.00	29.72

**Movement, Approach, & Intersection Results**

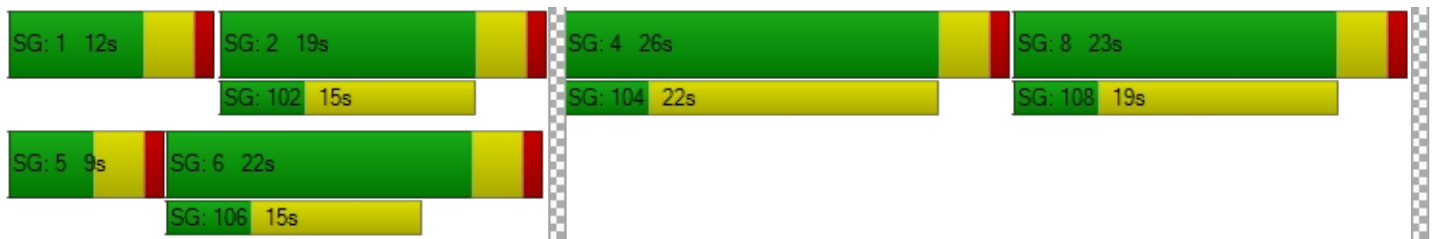
d_M, Delay for Movement [s/veh]	47.51	15.44	6.84	45.21	15.17	0.00	37.64	37.64	43.79	41.75	35.26	35.26
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.96			16.52			41.54			40.14		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.87											
Intersection LOS	B											
Intersection V/C	0.586											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.56	31.56	31.56	31.56
I_p,int, Pedestrian LOS Score for Intersection	2.734	2.646	2.031	2.085
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	449	374	474	549
d_b, Bicycle Delay [s]	24.08	26.46	23.31	21.08
I_b,int, Bicycle LOS Score for Intersection	3.467	3.020	1.761	1.802
Bicycle LOS	C	C	A	A

**Sequence**





Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1011	197	42	904	0	0	0	9	215	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	67	0	0	17	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	49	0	0	0	0	0	2	0	0	11
Total Hourly Volume [veh/h]	30	1078	148	42	921	0	0	0	7	215	5	32
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	284	39	11	242	0	0	0	2	57	1	8
Total Analysis Volume [veh/h]	32	1135	156	44	969	0	0	0	7	226	5	34
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	25	9	22	0	0	10	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	44	44	3	44	44	1	1	7	7	7
g / C, Green / Cycle	0.03	0.62	0.62	0.04	0.63	0.63	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.31	0.10	0.02	0.26	0.26	0.00	0.00	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1813	1615
c, Capacity [veh/h]	64	2241	1000	78	1192	1192	21	18	179	179	160
d1, Uniform Delay [s]	33.30	7.41	5.63	32.97	6.55	6.55	0.00	34.52	30.47	30.47	29.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.06	0.82	0.33	6.27	1.03	1.03	0.00	13.97	3.86	3.85	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.50	0.51	0.16	0.56	0.41	0.41	0.00	0.40	0.65	0.64	0.21
d, Delay for Lane Group [s/veh]	39.35	8.23	5.96	39.25	7.57	7.57	0.00	48.49	34.33	34.31	29.80
Lane Group LOS	D	A	A	D	A	A	A	D	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.63	3.96	0.87	0.85	3.16	3.16	0.00	0.18	2.00	2.00	0.54
50th-Percentile Queue Length [ft/ln]	15.64	99.10	21.67	21.18	78.91	78.91	0.00	4.59	50.05	50.12	13.48
95th-Percentile Queue Length [veh/ln]	1.13	7.13	1.56	1.53	5.68	5.68	0.00	0.33	3.60	3.61	0.97
95th-Percentile Queue Length [ft/ln]	28.16	178.37	39.00	38.13	142.03	142.03	0.00	8.25	90.10	90.22	24.27

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	39.35	8.23	5.96	39.25	7.57	7.57	0.00	0.00	48.49	34.32	34.31	29.80
Movement LOS	D	A	A	D	A	A	A	A	D	C	C	C
d_A, Approach Delay [s/veh]	8.72			8.95			48.49			33.74		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	11.46											
Intersection LOS	B											
Intersection V/C	0.406											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.716			0.000			2.264		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	599			513			171			627		
d_b, Bicycle Delay [s]	17.21			19.37			29.32			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.692			2.395			1.574			2.015		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	158	278	0	0	1003	144	0	0	0	116	0	979
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	17	0	0	0	0	0	0	67
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	36	0	0	0	0	0	262
Total Hourly Volume [veh/h]	158	278	0	0	1020	108	0	0	0	116	0	784
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	73	0	0	268	28	0	0	0	31	0	206
Total Analysis Volume [veh/h]	166	293	0	0	1074	114	0	0	0	122	0	825
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	11	20	0	0	9	0	0	0	0	40	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.59		0.09
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.30		0.07
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	211	2804	2141		166
d1, Uniform Delay [s]	25.83	1.66	7.13		26.60
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	6.32	0.07	0.84		6.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.79	0.10	0.50		0.73
d, Delay for Lane Group [s/veh]	32.15	1.73	7.97		32.71
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.54	0.17	3.23		1.89
50th-Percentile Queue Length [ft/ln]	63.51	4.14	80.78		47.25
95th-Percentile Queue Length [veh/ln]	4.57	0.30	5.82		3.40
95th-Percentile Queue Length [ft/ln]	114.32	7.45	145.40		85.05

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	32.15	1.73	0.00	0.00	7.97	0.00	0.00	0.00	0.00	0.00	32.71	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	12.73			7.97			0.00			32.71			
Approach LOS	B			A			A			C			
d_I, Intersection Delay [s/veh]	11.12												
Intersection LOS	B												
Intersection V/C	0.456												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.961		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			166			0			1198		
d_b, Bicycle Delay [s]	16.17			25.25			30.04			4.83		
I_b,int, Bicycle LOS Score for Intersection	1.938			2.446			4.132			1.560		
Bicycle LOS	A			B			D			A		

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.679

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			←↑↑			↑↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	176	664	417	0	179	0	705	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	17	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	44	0	0	0	0	0	176	0	0	0
Total Hourly Volume [veh/h]	0	301	132	681	417	0	179	0	529	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	79	35	179	110	0	47	0	139	0	0	0
Total Analysis Volume [veh/h]	0	317	139	717	439	0	188	0	557	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	31	43	0	17	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	10	25	39	13	13	
g / C, Green / Cycle	0.16	0.42	0.65	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.40	0.12	0.10	0.19	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	577	767	2351	393	621	
d1, Uniform Delay [s]	23.30	16.53	4.20	20.57	22.90	
k, delay calibration	0.50	0.30	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.74	13.73	0.18	0.90	4.94	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.55	0.93	0.19	0.48	0.90	
d, Delay for Lane Group [s/veh]	27.04	30.27	4.37	21.48	27.84	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	2.23	10.93	0.80	2.24	3.95	
50th-Percentile Queue Length [ft/ln]	55.84	273.33	19.91	55.89	98.72	
95th-Percentile Queue Length [veh/ln]	4.02	16.36	1.43	4.02	7.11	
95th-Percentile Queue Length [ft/ln]	100.51	408.89	35.84	100.60	177.70	

**Movement, Approach, & Intersection Results**

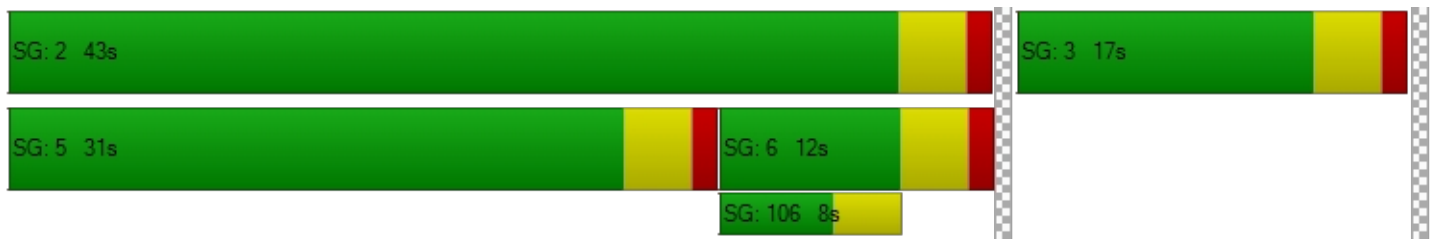
d_M, Delay for Movement [s/veh]	0.00	27.04	0.00	30.27	4.37	0.00	21.48	0.00	27.84	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	27.04			20.43			26.23			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	23.32											
Intersection LOS	C											
Intersection V/C	0.679											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	21.72
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000	2.103
Crosswalk LOS	F	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	266	1298	433	0
d_b, Bicycle Delay [s]	22.57	3.70	18.45	30.04
I_b,int, Bicycle LOS Score for Intersection	1.821	2.513	1.560	4.132
Bicycle LOS	A	B	A	D

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	14	0	0	13	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	16	72	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	16	85	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	4	22	0	1
Total Analysis Volume [veh/h]	34	0	17	89	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.31	0.00	9.38	8.48
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.82	0.82	0.29	0.29
d_A, Approach Delay [s/veh]	0.00		1.17		8.48	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.10					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.082

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	14	0	0	13	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	16	56	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	28	0	16	69	0	0	0	0	0	0	4
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	0	4	18	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	29	0	16	73	0	0	0	0	0	0	4
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.02	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.11	9.17	8.44	9.11	9.46	8.76	7.23	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.10	0.33	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.52	2.52	2.52	8.13	8.13	8.13	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.17			9.40			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.03											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	14	0	0	13	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	7	9	48	0	0	0	0	27	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	26	7	9	61	0	0	0	0	27	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	7	2	2	16	0	0	0	0	7	0	1
Total Analysis Volume [veh/h]	0	27	7	9	64	0	0	0	0	28	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	7.28	0.00	0.00	9.17	9.65	8.58	9.30	9.78	8.58
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.43	0.43	0.43	0.00	0.00	0.00	2.66	2.66	2.66
d_A, Approach Delay [s/veh]	0.00			0.90			9.13			9.25		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.50											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	454	553	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	16	17	71	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	471	624	0	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	124	164	0	0	1
Total Analysis Volume [veh/h]	17	496	657	0	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	8.90	0.00	0.00	0.00	0.00	12.75
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.00	0.03
95th-Percentile Queue Length [ft/ln]	1.38	1.38	0.00	0.00	0.00	0.65
d_A, Approach Delay [s/veh]	0.29		0.00		12.75	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	454	0	0	553	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	32	16	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	490	0	32	569	0	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	129	0	8	150	0	2
Total Analysis Volume [veh/h]	516	0	34	599	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.51	0.00	0.00	11.49
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.10	0.10	0.00	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.48	2.48	0.00	1.08
d_A, Approach Delay [s/veh]	0.00		0.46		11.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.33					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	5.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← →			← →			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	454	0	0	553	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	52	54	0	13	8	2	0	9	14	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	2	0	0	2	0	0	0
Total Hourly Volume [veh/h]	36	506	40	0	566	6	2	0	7	14	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	133	11	0	149	2	1	0	2	4	0	0
Total Analysis Volume [veh/h]	38	533	42	0	596	6	2	0	7	15	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	33	0	9	32	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	52	0	49	1	1
g / C, Green / Cycle	0.04	0.80	0.00	0.76	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.02	0.32	0.00	0.34	0.01	0.01
s, saturation flow rate [veh/h]	1714	1777	1714	1797	1753	1676
c, Capacity [veh/h]	69	1411	3	1357	103	144
d1, Uniform Delay [s]	30.69	2.05	0.00	2.93	31.43	31.55
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.74	0.88	0.00	1.05	0.36	0.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.55	0.41	0.00	0.44	0.09	0.10
d, Delay for Lane Group [s/veh]	37.42	2.92	0.00	3.98	31.79	31.86
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.67	0.46	0.00	1.76	0.14	0.24
50th-Percentile Queue Length [ft/ln]	16.63	11.38	0.00	43.99	3.62	5.93
95th-Percentile Queue Length [veh/ln]	1.20	0.82	0.00	3.17	0.26	0.43
95th-Percentile Queue Length [ft/ln]	29.93	20.49	0.00	79.19	6.51	10.67

**Movement, Approach, & Intersection Results**

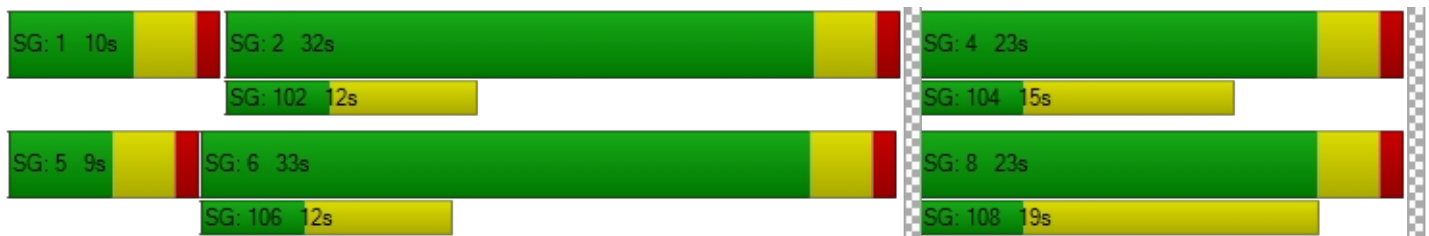
d_M, Delay for Movement [s/veh]	37.42	2.92	2.92	0.00	3.98	3.98	31.79	31.79	31.79	31.86	31.86	31.86
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	5.06			3.98			31.79			31.86		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	5.06											
Intersection LOS	A											
Intersection V/C	0.366											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.16			24.16			24.16			24.16		
l_p,int, Pedestrian LOS Score for Intersection	2.574			2.301			1.731			1.734		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	891			861			584			584		
d_b, Bicycle Delay [s]	10.00			10.56			16.31			16.31		
l_b,int, Bicycle LOS Score for Intersection	2.594			2.556			1.578			1.584		
Bicycle LOS	B			B			A			A		

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	220	108	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	4	16	32	127	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	4	16	252	235	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	4	66	62	4
Total Analysis Volume [veh/h]	4	4	17	265	247	17
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.44	9.65	7.78	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.01	1.01	0.98	0.98	0.00	0.00
d_A, Approach Delay [s/veh]	11.05		0.47		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.40					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	59	28	28	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	2	16	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	68	30	44	4	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	18	8	12	1	0
Total Analysis Volume [veh/h]	0	72	32	46	4	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	0.00	9.15	8.56
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.35	0.35
d_A, Approach Delay [s/veh]	0.00		0.00		9.15	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	9	0	0	40	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	16	0	9	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	16	0	49	4	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	4	0	13	1	0
Total Analysis Volume [veh/h]	47	17	0	52	4	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.32	0.00	9.04	8.56
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.34	0.34
d_A, Approach Delay [s/veh]	0.00		0.00		9.04	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.30					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	9	0	0	40	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	6	0	13	0	0	0	0	2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	61	6	0	53	0	0	0	0	2	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	2	0	14	0	0	0	0	1	0	0
Total Analysis Volume [veh/h]	0	64	6	0	56	0	0	0	0	2	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.31	0.00	0.00	7.33	0.00	0.00	9.20	9.69	8.54	9.21	9.68	8.60
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18
d_A, Approach Delay [s/veh]	0.00			0.00			9.14			9.21		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.14											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	187	111	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	50	201	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	237	312	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	62	82	5
Total Analysis Volume [veh/h]	5	0	0	249	328	19
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.81	9.32	7.94	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.71	0.71	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.81		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	63	59	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	63	59	0	0	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	17	16	0	0	2
Total Analysis Volume [veh/h]	34	66	62	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	9.65	8.60
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.68	1.68	0.00	0.00	0.60	0.60
d_A, Approach Delay [s/veh]	2.51		0.00		8.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.88					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	63	59	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	32	8	0	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	95	67	0	0	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	25	18	0	0	2
Total Analysis Volume [veh/h]	26	100	71	0	0	6
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	9.78	8.63
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.29	1.29	0.00	0.00	0.45	0.45
d_A, Approach Delay [s/veh]	1.52		0.00		8.63	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.20					
Intersection LOS	A					

Bloomington Business Park Specific Plan

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Scenario 11 2040 AM + P

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4/23/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	652	809	489	972	760	1222	1074	651	413	707	7749

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	280	1276	88	550	1066	307	309	271	101	49	348	350	4995

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1552	23	79	1095	10	63	2822

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	134	1256	64	170	854	65	148	101	75	86	103	159	3215

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	19	3	14	13	0	12	13	512	62	39	241	10	938

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	84	324	63	9	208	7	14	193	304	112	167	25	1510

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	315	55	54	243	41	224	932

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	18	10	39	34	12	42	5	262	37	10	388	10	867

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	51	4	2	254	247	65	623

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	7	38	6	28	18	27	8	219	15	3	297	74	740

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	406	1205	1379	1012	442	5	486	4935

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1523	406	487	1374	608	4	558	4960

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	5	1538	4	80	1675	190	103	0	35	0	0	103	3733

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	99	1005	12	314	1187	174	205	75	54	10	117	270	3522

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	69	818	25	62	1027	101	133	63	91	10	65	38	2502

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	142	759	107	92	1069	175	97	72	143	80	60	49	2845

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	28	877	1	19	1194	28	109	30	35	24	19	20	2384

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	172	805	13	27	1339	104	50	18	97	71	49	15	2760

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	732	171	295	1185	6	8	0	10	342	1	88	2842

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	66	380	417	577	788	43	34	70	49	315	117	548	3404

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	6	280	22	383	416	590	21	5	618	221	2576

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	58	840	203	38	803	0	4	31	82	101	17	22	2199

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	30	1078	197	42	921	0	0	0	9	215	5	43	2540

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	158	278	1020	144	116	1046	2762

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	301	176	681	417	179	705	2459

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	32	0	16	85	0	4	137

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	28	0	16	69	0	0	0	0	0	0	4	117

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	26	7	9	61	0	0	0	0	27	0	2	132

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	16	471	624	0	4	1115	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	490	0	32	569	8	1099	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	36	506	54	0	566	8	2	0	9	14	0	0	1195

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	4	4	16	252	235	16	527

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	68	30	44	4	0	146

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	45	16	0	49	4	0	114

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	61	6	0	53	0	0	0	0	2	0	0	122

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	5	0	0	237	312	18	572

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	32	63	59	0	0	8	162

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	25	95	67	0	0	6	193

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## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 11 2040 AM + P

Report File: C:\...\PLD 2040 AM + P.pdf

7/12/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Left	0.776	41.8	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	SB Left	0.558	35.4	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.367	4.8	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.444	20.3	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.652	13.1	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	1.038	57.5	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.101	16.7	C
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	SB Left	0.114	18.7	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.078	11.8	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.290	9.1	A
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	0.975	51.9	D
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.929	58.4	E
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.535	9.1	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.725	38.6	D
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.487	13.5	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	SB Right	1.937	78.2	E
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.456	9.3	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.588	13.9	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.763	25.0	C
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	EB Thru	0.845	53.9	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.711	25.9	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.572	18.4	B
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.395	11.4	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.453	11.1	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.673	23.1	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.002	8.4	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	SB Thru	0.044	9.2	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.013	8.9	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.004	12.3	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.007	11.3	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.341	3.6	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.003	11.2	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.002	9.1	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.002	8.9	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.001	9.0	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.003	10.5	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.004	8.6	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.003	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	41.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.776

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	633	801	489	972	728	1222	1074	0	571	413	0	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	3	0	0	13	0	0	0	34	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	122	0	0	306	0	0	151	0	0	177
Total Hourly Volume [veh/h]	641	804	367	972	741	916	1074	0	454	413	0	530
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	169	212	97	256	195	241	283	0	119	109	0	139
Total Analysis Volume [veh/h]	675	846	386	1023	780	964	1131	0	478	435	0	558
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	2		3			3			1			
v_ci, Inbound Pedestrian Volume crossing mi	1		3			3			2			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	32	0	40	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	31	36	41	41	41
g / C, Green / Cycle	0.22	0.26	0.30	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.16	0.29	0.15	0.32	0.12
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	760	1334	1053	1765	1203	1203
d1, Uniform Delay [s]	45.55	39.48	41.46	30.64	38.21	29.57
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.76	2.31	7.78	0.81	4.35	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.89	0.63	0.97	0.44	0.94	0.36
d, Delay for Lane Group [s/veh]	49.31	41.79	49.24	31.45	42.55	29.75
Lane Group LOS	D	D	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	9.90	7.50	15.72	5.91	15.25	4.35
50th-Percentile Queue Length [ft/ln]	247.59	187.54	393.08	147.66	381.21	108.83
95th-Percentile Queue Length [veh/ln]	15.06	11.99	22.23	9.89	21.65	7.78
95th-Percentile Queue Length [ft/ln]	376.62	299.83	555.66	247.30	541.31	194.38



**Movement, Approach, & Intersection Results**

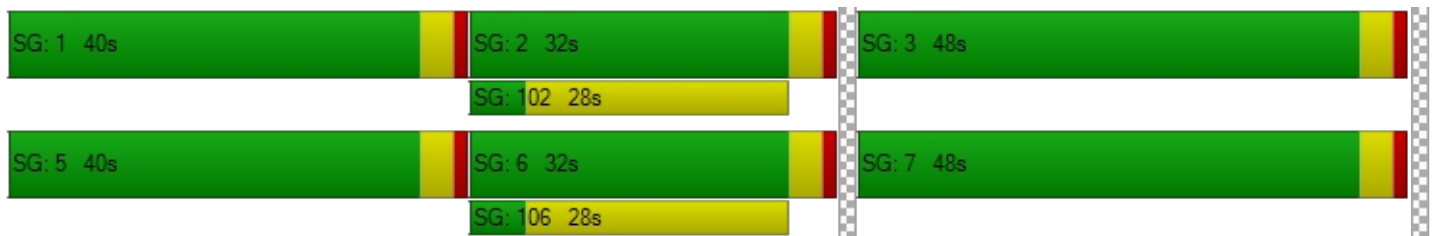
d_M, Delay for Movement [s/veh]	49.31	41.79	0.00	49.24	31.45	0.00	42.55	0.00	0.00	29.75	0.00	0.00
Movement LOS	D	D		D	C		D			C		
d_A, Approach Delay [s/veh]	45.12			41.54			42.55			29.75		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	41.84											
Intersection LOS	D											
Intersection V/C	0.776											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			51.30			51.30		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.104			2.981		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	467			467			734			734		
d_b, Bicycle Delay [s]	35.23			35.23			24.04			24.04		
I_b,int, Bicycle LOS Score for Intersection	2.396			2.551			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	35.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	280	1249	88	550	954	307	309	271	101	49	348	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	0	0	47	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	77	0	0	25	0	0	88
Total Hourly Volume [veh/h]	280	1261	66	550	1001	230	309	271	76	49	348	262
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	332	17	145	263	61	81	71	20	13	92	69
Total Analysis Volume [veh/h]	295	1327	69	579	1054	242	325	285	80	52	366	276
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	28	40	0	24	36	0	16	46	0	10	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	13	57	57	20	64	64	12	23	23	4	15	39
g / C, Green / Cycle	0.10	0.47	0.47	0.17	0.54	0.54	0.10	0.19	0.19	0.03	0.13	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.20	0.20	0.16	0.24	0.24	0.09	0.08	0.05	0.01	0.10	0.10
s, saturation flow rate [veh/h]	3514	5176	1839	3514	3618	1725	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	367	2444	868	587	1934	922	353	696	311	124	460	936
d1, Uniform Delay [s]	52.55	20.87	20.88	49.88	17.15	17.19	53.52	42.50	41.19	56.72	50.90	30.07
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.12	0.54	1.50	14.52	0.77	1.63	9.92	0.39	0.43	2.27	3.20	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.42	0.42	0.99	0.45	0.46	0.92	0.41	0.26	0.42	0.80	0.30
d, Delay for Lane Group [s/veh]	56.67	21.41	22.38	64.40	17.92	18.82	63.44	42.89	41.63	58.99	54.09	30.25
Lane Group LOS	E	C	C	E	B	B	E	D	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.41	6.03	6.66	9.65	7.23	7.18	5.22	3.65	2.00	0.79	5.36	2.87
50th-Percentile Queue Length [ft/ln]	110.21	150.73	166.60	241.37	180.67	179.45	130.50	91.28	50.10	19.70	133.98	71.77
95th-Percentile Queue Length [veh/ln]	7.85	10.06	10.90	14.75	11.64	11.57	8.97	6.57	3.61	1.42	9.16	5.17
95th-Percentile Queue Length [ft/ln]	196.29	251.41	272.44	368.77	290.89	289.29	224.17	164.31	90.17	35.47	228.89	129.19

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.67	21.63	22.38	64.40	18.07	18.82	63.44	42.89	41.63	58.99	54.09	30.25
Movement LOS	E	C	C	E	B	B	E	D	D	E	D	C
d_A, Approach Delay [s/veh]	27.77			32.48			52.42			44.98		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.40											
Intersection LOS	D											
Intersection V/C	0.558											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.35	51.35	51.35	51.35
I_p,int, Pedestrian LOS Score for Intersection	3.424	3.547	3.086	3.303
Crosswalk LOS	C	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	533	700	600
d_b, Bicycle Delay [s]	29.41	32.28	25.36	29.41
I_b,int, Bicycle LOS Score for Intersection	2.266	2.633	2.149	2.205
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.367

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1525	23	79	983	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	47	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1537	17	79	1030	10	47
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	404	4	21	271	3	12
Total Analysis Volume [veh/h]	1618	18	83	1084	11	49
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	24	0	9	33	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	50	50	4	59	4	4
g / C, Green / Cycle	0.72	0.72	0.06	0.84	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.31	0.01	0.02	0.21	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3722	1161	207	4322	92	82
d1, Uniform Delay [s]	4.02	2.80	31.81	1.21	31.78	32.57
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.02	1.26	0.14	0.57	6.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.43	0.02	0.40	0.25	0.12	0.60
d, Delay for Lane Group [s/veh]	4.39	2.82	33.07	1.35	32.35	39.31
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.42	0.04	0.69	0.20	0.19	0.94
50th-Percentile Queue Length [ft/ln]	35.45	0.95	17.32	4.96	4.68	23.56
95th-Percentile Queue Length [veh/ln]	2.55	0.07	1.25	0.36	0.34	1.70
95th-Percentile Queue Length [ft/ln]	63.82	1.70	31.17	8.93	8.43	42.40

**Movement, Approach, & Intersection Results**

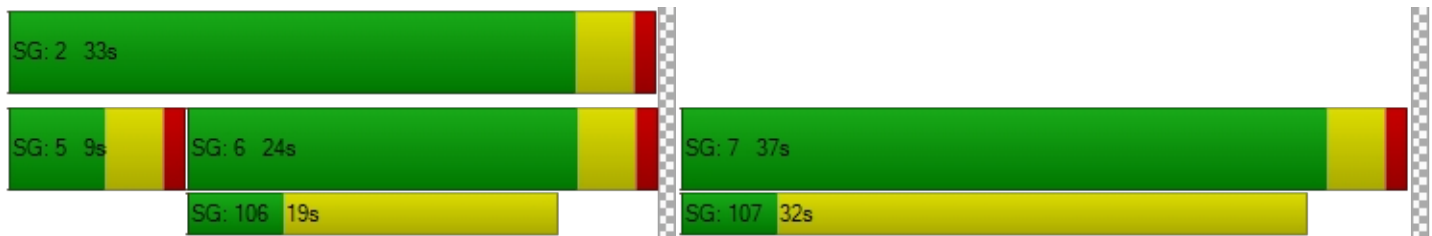
d_M, Delay for Movement [s/veh]	4.39	2.82	33.07	1.35	32.35	39.31
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	4.38		3.60		38.03	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.77					
Intersection LOS	A					
Intersection V/C	0.367					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.062	2.187
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	828	942
d_b, Bicycle Delay [s]	17.89	12.03	9.80
I_b,int, Bicycle LOS Score for Intersection	2.463	2.201	1.560
Bicycle LOS	B	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.444

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1256	64	58	854	65	148	101	75	86	103	132
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	47	0	0	0	0	0	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	16	0	0	19	0	0	36
Total Hourly Volume [veh/h]	134	1256	48	105	854	49	148	101	56	86	103	108
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	331	13	28	225	13	39	27	15	23	27	28
Total Analysis Volume [veh/h]	141	1322	51	111	899	52	156	106	59	91	108	114
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	52	52	5	51	51	9	12	12	6	9	9
g / C, Green / Cycle	0.06	0.57	0.57	0.05	0.57	0.57	0.10	0.13	0.13	0.07	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.03	0.03	0.17	0.17	0.09	0.03	0.04	0.05	0.03	0.07
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1847	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	2959	923	187	2056	1050	182	477	213	119	351	157
d1, Uniform Delay [s]	41.81	11.11	8.54	41.74	10.17	10.17	39.91	35.01	35.27	41.43	37.90	39.56
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	0.49	0.11	2.99	0.39	0.76	10.87	0.23	0.70	9.68	0.49	6.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.45	0.06	0.59	0.31	0.31	0.86	0.22	0.28	0.76	0.31	0.73
d, Delay for Lane Group [s/veh]	46.44	11.60	8.66	44.72	10.56	10.93	50.77	35.24	35.97	51.11	38.39	45.87
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.65	4.75	0.44	1.27	3.11	3.30	3.90	1.04	1.20	2.29	1.12	2.69
50th-Percentile Queue Length [ft/ln]	41.27	118.82	11.00	31.77	77.84	82.39	97.53	26.11	29.89	57.14	28.05	67.36
95th-Percentile Queue Length [veh/ln]	2.97	8.33	0.79	2.29	5.60	5.93	7.02	1.88	2.15	4.11	2.02	4.85
95th-Percentile Queue Length [ft/ln]	74.28	208.20	19.81	57.19	140.11	148.30	175.55	47.00	53.79	102.84	50.49	121.24

**Movement, Approach, & Intersection Results**

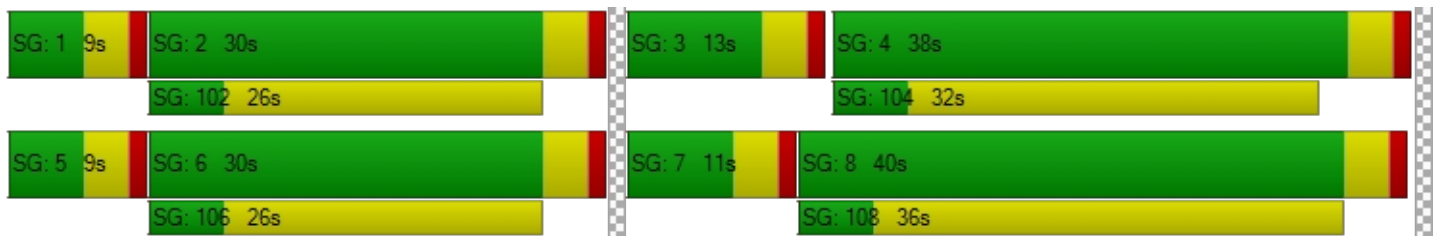
d_M, Delay for Movement [s/veh]	46.44	11.60	8.66	44.72	10.67	10.93	50.77	35.24	35.97	51.11	38.39	45.87
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	14.75			14.24			42.92			44.81		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	20.33											
Intersection LOS	C											
Intersection V/C	0.444											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.155	3.080	2.588	2.608
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	799	755
d_b, Bicycle Delay [s]	22.80	22.80	16.24	17.46
I_b,int, Bicycle LOS Score for Intersection	2.401	2.153	1.840	1.848
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.652

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	5	3	6	13	0	12	13	442	5	8	224	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	4	0	0	0	0	30	24	13	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	3	10	13	0	12	13	472	29	21	231	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	3	3	0	3	3	124	8	6	61	3
Total Analysis Volume [veh/h]	12	3	11	14	0	13	14	497	31	22	243	11
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	645	648	831	782
Degree of Utilization, x	0.04	0.04	0.65	0.35

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.13	0.13	4.94	1.60
95th-Percentile Queue Length [ft]	3.15	3.26	123.52	39.94
Approach Delay [s/veh]	8.82	8.80	15.05	10.10
Approach LOS	A	A	C	B
Intersection Delay [s/veh]	13.10			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	57.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.038

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	75	320	59	9	192	7	14	154	265	96	128	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	2	2	0	7	0	0	17	16	7	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	322	61	9	199	7	14	171	281	103	145	25
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	85	16	2	52	2	4	45	74	27	38	7
Total Analysis Volume [veh/h]	83	339	64	9	209	7	15	180	296	108	153	26
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	486	414	491	429
Degree of Utilization, x	1.04	0.54	1.01	0.67

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	14.67	3.15	13.78	4.79
95th-Percentile Queue Length [ft]	366.74	78.76	344.43	119.81
Approach Delay [s/veh]	79.90	21.57	69.75	26.86
Approach LOS	F	C	F	D
Intersection Delay [s/veh]	57.52			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.101

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	299	39	22	239	37	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	7	15	2	2	53
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	306	46	37	241	39	150
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	12	10	63	10	39
Total Analysis Volume [veh/h]	322	48	39	254	41	158
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.10	0.23
d_M, Delay for Movement [s/veh]	0.00	0.00	8.10	0.00	16.73	12.97
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.10	0.10	1.42	1.42
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.52	2.52	35.38	35.38
d_A, Approach Delay [s/veh]	0.00		1.08		13.74	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.54					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	18.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.114

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	10	10	39	34	12	42	5	250	6	10	340	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	0	0	0	0	6	13	0	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	10	39	34	12	42	5	256	19	10	360	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	10	9	3	11	1	67	5	3	95	3
Total Analysis Volume [veh/h]	14	11	41	36	13	44	5	269	20	11	379	11
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**




V/C, Movement V/C Ratio	0.05	0.03	0.05	0.11	0.04	0.07	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	17.73	16.06	10.76	18.73	17.37	12.70	8.07	0.00	0.00	7.83	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.44	0.81	0.81	0.81	0.01	0.01	0.01	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	11.08	11.08	11.08	20.34	20.34	20.34	0.32	0.32	0.32	0.65	0.65	0.65
d_A, Approach Delay [s/veh]	13.12			15.69			0.14			0.21		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.87											
Intersection LOS	C											



**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	36	4	2	218	104	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	17	60	25
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	4	2	235	164	32
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	1	1	62	43	8
Total Analysis Volume [veh/h]	45	4	2	247	173	34
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.79	9.75	7.62	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.27	0.27	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.74	6.74	0.11	0.11	0.00	0.00
d_A, Approach Delay [s/veh]	11.63		0.06		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.16					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.290

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	7	38	6	14	18	27	8	164	15	3	78	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	7	0	0	0	25	0	0	92	24
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	38	6	21	18	27	8	189	15	3	170	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	10	2	6	5	7	2	50	4	1	45	11
Total Analysis Volume [veh/h]	7	40	6	22	19	28	8	199	16	3	179	43
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	720	745	715	835	717	835
Degree of Utilization, x	0.07	0.09	0.29	0.02	0.25	0.05

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.24	0.31	1.20	0.06	1.01	0.16
95th-Percentile Queue Length [ft]	5.94	7.63	29.99	1.46	25.15	4.07
Approach Delay [s/veh]	8.39	8.33	9.58		9.01	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	9.09					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	51.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.975

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	386	1196	0	0	1345	1012	0	0	0	358	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	4	0	0	15	0	0	0	0	35	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	253	0	0	0	0	0	122
Total Hourly Volume [veh/h]	396	1200	0	0	1360	759	0	0	0	393	5	364
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	104	316	0	0	358	200	0	0	0	103	1	96
Total Analysis Volume [veh/h]	417	1263	0	0	1432	799	0	0	0	414	5	383
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	22	63	0	0	41	0	0	0	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	85	85	85	85		85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	18	59	37	37		18	18
g / C, Green / Cycle	0.21	0.69	0.43	0.43		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.35	0.28	0.49		0.23	0.24
s, saturation flow rate [veh/h]	1714	3618	5176	1615		1811	1615
c, Capacity [veh/h]	364	2510	2249	702		384	343
d1, Uniform Delay [s]	33.51	6.13	18.80	24.05		33.51	33.51
k, delay calibration	0.22	0.50	0.50	0.50		0.20	0.21
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	80.17	0.72	1.39	78.88		56.91	69.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.15	0.50	0.64	1.14		1.09	1.12
d, Delay for Lane Group [s/veh]	113.68	6.85	20.19	102.93		90.42	102.62
Lane Group LOS	F	A	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		No	Yes
50th-Percentile Queue Length [veh/ln]	15.36	4.47	7.19	28.37		13.74	13.42
50th-Percentile Queue Length [ft/ln]	384.01	111.69	179.84	709.24		343.52	335.45
95th-Percentile Queue Length [veh/ln]	23.37	7.93	11.59	40.62		20.74	20.57
95th-Percentile Queue Length [ft/ln]	584.21	198.35	289.81	1015.59		518.61	514.16



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	113.68	6.85	0.00	0.00	20.19	102.93	0.00	0.00	0.00	90.42	90.42	102.62
Movement LOS	F	A			C	F				F	F	F
d_A, Approach Delay [s/veh]	33.37				49.82		0.00		96.25			
Approach LOS	C				D		A		F			
d_I, Intersection Delay [s/veh]	51.86											
Intersection LOS	D											
Intersection V/C	0.975											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		33.99		33.99	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.432		2.413	
Crosswalk LOS	F		F		B		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1388		870		0		423	
d_b, Bicycle Delay [s]	3.99		13.57		42.52		26.42	
I_b,int, Bicycle LOS Score for Intersection	2.946		2.926		4.132		3.084	
Bicycle LOS	C		C		D		C	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	58.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.929

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1494	385	487	1257	0	608	4	476	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	10	0	50	0	0	0	34	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	99	0	0	0	0	0	128	0	0	0
Total Hourly Volume [veh/h]	0	1508	296	487	1307	0	608	4	382	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	397	78	128	344	0	160	1	101	0	0	0
Total Analysis Volume [veh/h]	0	1587	312	513	1376	0	640	4	402	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	28	56	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	85	85	85	85	85	85	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	24	24	24	52	25	25	
g / C, Green / Cycle	0.28	0.28	0.28	0.61	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.19	0.30	0.38	0.30	0.32	
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1660	
c, Capacity [veh/h]	1462	456	484	2214	504	488	
d1, Uniform Delay [s]	30.54	27.16	30.54	10.35	30.05	30.05	
k, delay calibration	0.50	0.50	0.34	0.50	0.34	0.39	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	50.43	8.08	50.58	1.33	35.11	66.41	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.09	0.68	1.06	0.62	1.01	1.10	
d, Delay for Lane Group [s/veh]	80.97	35.24	81.12	11.67	65.16	96.46	
Lane Group LOS	F	D	F	B	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	16.38	6.47	16.30	7.39	14.77	18.55	
50th-Percentile Queue Length [ft/ln]	409.58	161.64	407.50	184.73	369.29	463.83	
95th-Percentile Queue Length [veh/ln]	24.17	10.64	23.73	11.85	21.20	27.13	
95th-Percentile Queue Length [ft/ln]	604.21	265.89	593.36	296.18	529.92	678.31	

**Movement, Approach, & Intersection Results**

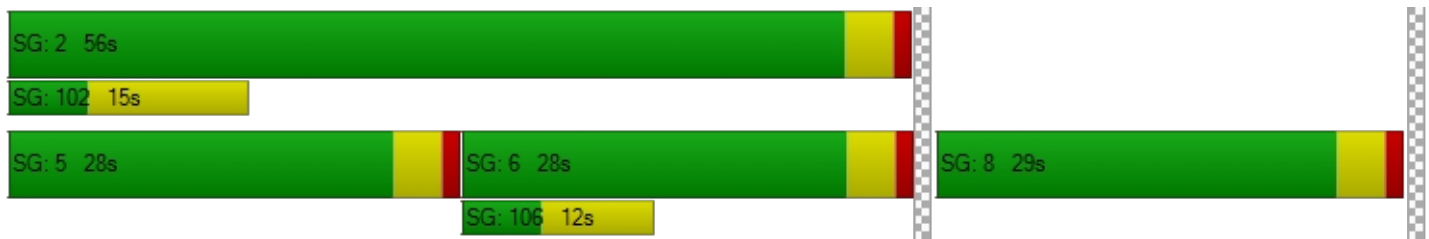
d_M, Delay for Movement [s/veh]	0.00	80.97	35.24	81.12	11.67	0.00	71.14	96.46	96.46	0.00	0.00	0.00
Movement LOS		F	D	F	B		E	F	F			
d_A, Approach Delay [s/veh]		73.46		30.53			81.23			0.00		
Approach LOS		E		C			F			A		
d_I, Intersection Delay [s/veh]	58.37											
Intersection LOS	E											
Intersection V/C	0.929											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		0.00		34.01		34.01
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.503		2.166
Crosswalk LOS	F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	564		1223		588		0
d_b, Bicycle Delay [s]	21.92		6.43		21.21		42.53
I_b,int, Bicycle LOS Score for Intersection	2.659		3.118		3.497		4.132
Bicycle LOS	B		C		C		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.535

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1489	4	80	1476	190	103	0	35	0	0	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	84	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	48	0	0	9	0	0	26
Total Hourly Volume [veh/h]	5	1512	3	80	1560	142	103	0	26	0	0	77
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	398	1	21	411	37	27	0	7	0	0	20
Total Analysis Volume [veh/h]	5	1592	3	84	1642	149	108	0	27	0	0	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	12	19	0	0	47	0	0	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	51	51	59	54	54	8	8	8
g / C, Green / Cycle	0.79	0.68	0.68	0.79	0.73	0.73	0.11	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.01	0.42	0.42	0.18	0.45	0.09	0.08	0.02	0.05
s, saturation flow rate [veh/h]	372	1900	1899	471	3618	1615	1338	1615	1615
c, Capacity [veh/h]	358	1286	1285	431	2623	1171	145	173	221
d1, Uniform Delay [s]	4.04	6.76	6.76	4.94	5.20	3.13	32.72	30.46	31.53
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	2.26	2.26	1.01	1.14	0.22	7.25	0.42	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	0.62	0.62	0.19	0.63	0.13	0.74	0.16	0.37
d, Delay for Lane Group [s/veh]	4.05	9.02	9.02	5.95	6.34	3.35	39.97	30.88	32.55
Lane Group LOS	A	A	A	A	A	A	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.01	6.08	6.08	0.26	4.66	0.54	2.15	0.45	1.40
50th-Percentile Queue Length [ft/ln]	0.23	151.97	151.96	6.46	116.58	13.42	53.76	11.31	35.12
95th-Percentile Queue Length [veh/ln]	0.02	10.12	10.12	0.47	8.20	0.97	3.87	0.81	2.53
95th-Percentile Queue Length [ft/ln]	0.42	253.06	253.05	11.63	205.11	24.15	96.77	20.35	63.22

**Movement, Approach, & Intersection Results**

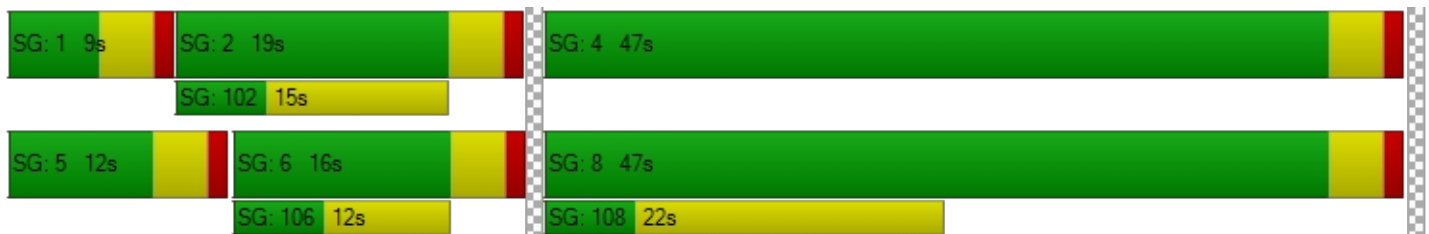
d_M, Delay for Movement [s/veh]	4.05	9.02	9.02	5.95	6.34	3.35	39.97	30.88	30.88	32.55	32.55	32.55
Movement LOS	A	A	A	A	A	A	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.01			6.08			38.15			32.55		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	9.10											
Intersection LOS	A											
Intersection V/C	0.535											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.07	0.00	29.07	29.07
I_p,int, Pedestrian LOS Score for Intersection	2.933	0.000	2.063	1.924
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	320	400	1146	1146
d_b, Bicycle Delay [s]	26.49	24.03	6.84	6.84
I_b,int, Bicycle LOS Score for Intersection	2.880	3.146	1.797	1.736
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	38.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	956	12	314	988	174	205	75	54	10	117	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	84	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	44	0	0	14	0	0	68
Total Hourly Volume [veh/h]	99	979	9	314	1072	130	205	75	40	10	117	202
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	258	2	83	282	34	54	20	11	3	31	53
Total Analysis Volume [veh/h]	104	1031	9	331	1128	137	216	79	42	11	123	213
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	27	45	0	18	36	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	37	37	22	51	51	14	29	29	1	16	16
g / C, Green / Cycle	0.08	0.35	0.35	0.21	0.48	0.48	0.13	0.27	0.27	0.01	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.19	0.34	0.34	0.13	0.02	0.03	0.01	0.06	0.13
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1829	1714	3618	1615	1714	1900	1615
c, Capacity [veh/h]	130	664	662	360	919	885	229	991	442	24	293	249
d1, Uniform Delay [s]	47.78	30.62	30.62	40.65	21.11	21.28	45.12	28.33	28.45	51.41	40.20	43.30
k, delay calibration	0.11	0.50	0.50	0.21	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.65	8.99	9.02	16.66	4.34	4.73	16.75	0.03	0.09	12.52	0.96	8.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.78	0.78	0.92	0.70	0.71	0.94	0.08	0.09	0.45	0.42	0.85
d, Delay for Lane Group [s/veh]	58.43	39.61	39.64	57.31	25.45	26.01	61.88	28.37	28.55	63.93	41.15	51.48
Lane Group LOS	E	D	D	E	C	C	E	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.05	13.19	13.16	9.94	12.83	12.71	6.60	0.74	0.80	0.37	2.95	5.92
50th-Percentile Queue Length [ft/ln]	76.32	329.72	328.88	248.60	320.70	317.79	165.09	18.60	20.02	9.29	73.64	147.89
95th-Percentile Queue Length [veh/ln]	5.50	19.14	19.10	15.12	18.70	18.56	10.82	1.34	1.44	0.67	5.30	9.90
95th-Percentile Queue Length [ft/ln]	137.38	478.62	477.59	377.88	467.55	463.97	270.45	33.48	36.03	16.71	132.55	247.61

**Movement, Approach, & Intersection Results**

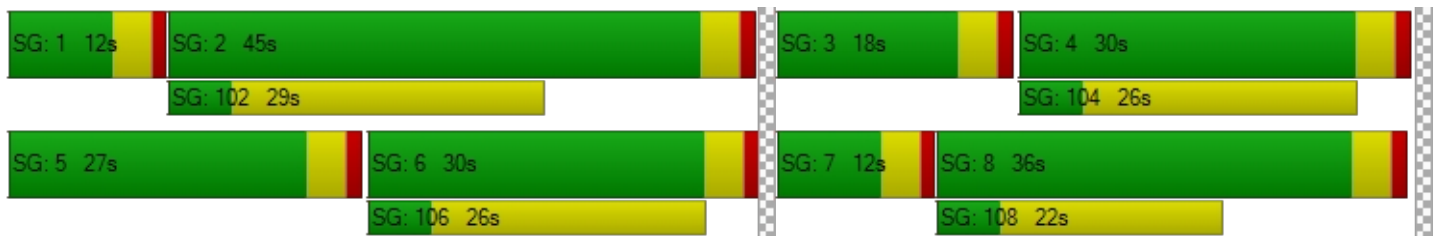
d_M, Delay for Movement [s/veh]	58.43	39.62	39.64	57.31	25.69	26.01	61.88	28.37	28.55	63.93	41.15	51.48
Movement LOS	E	D	D	E	C	C	E	C	C	E	D	D
d_A, Approach Delay [s/veh]	41.33			32.27			49.87			48.21		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	38.65											
Intersection LOS	D											
Intersection V/C	0.725											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.92	43.92	43.92	43.92
I_p,int, Pedestrian LOS Score for Intersection	2.770	3.039	2.729	2.695
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	495	781	609	495
d_b, Bicycle Delay [s]	29.75	19.53	25.40	29.75
I_b,int, Bicycle LOS Score for Intersection	2.506	2.913	1.849	1.902
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	25	62	875	53	121	63	91	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	0	64	20	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	18	0	0	23	0	0	10
Total Hourly Volume [veh/h]	69	798	19	62	939	55	127	63	68	10	65	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	210	5	16	247	14	33	17	18	3	17	7
Total Analysis Volume [veh/h]	73	840	20	65	988	58	134	66	72	11	68	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	33	33	3	33	33	12	12
g / C, Green / Cycle	0.06	0.55	0.55	0.06	0.54	0.54	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.04	0.28	0.28	0.17	0.06
s, saturation flow rate [veh/h]	1714	1900	1884	1714	1900	1863	1630	1831
c, Capacity [veh/h]	102	1041	1032	96	1034	1014	409	425
d1, Uniform Delay [s]	27.74	7.95	7.95	27.81	8.64	8.64	22.99	20.64
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.82	1.22	1.23	7.92	1.80	1.84	1.86	0.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.41	0.41	0.67	0.51	0.51	0.66	0.25
d, Delay for Lane Group [s/veh]	36.56	9.17	9.18	35.73	10.44	10.48	24.85	20.95
Lane Group LOS	D	A	A	D	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.23	2.95	2.93	1.08	3.96	3.89	3.61	1.19
50th-Percentile Queue Length [ft/ln]	30.69	73.74	73.21	27.03	98.97	97.36	90.36	29.83
95th-Percentile Queue Length [veh/ln]	2.21	5.31	5.27	1.95	7.13	7.01	6.51	2.15
95th-Percentile Queue Length [ft/ln]	55.23	132.74	131.78	48.66	178.15	175.24	162.65	53.69

**Movement, Approach, & Intersection Results**

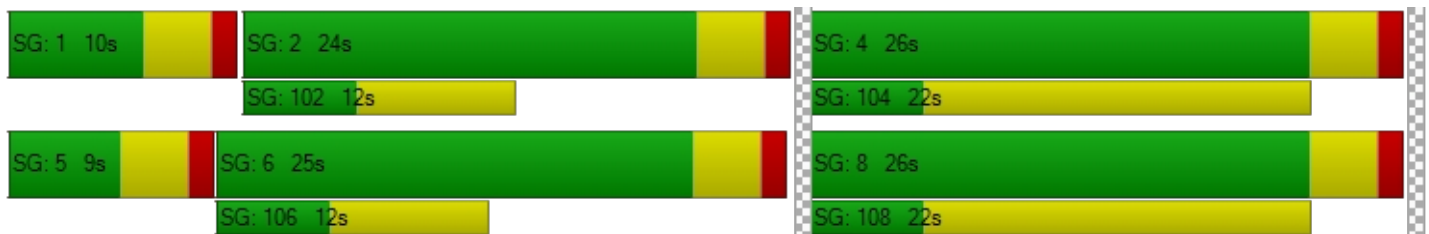
d_M, Delay for Movement [s/veh]	36.56	9.17	9.18	35.73	10.46	10.48	24.85	24.85	24.85	20.95	20.95	20.95
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.32			11.94			24.85			20.95		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.55											
Intersection LOS	B											
Intersection V/C	0.487											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.701			2.914			1.978			1.889		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			666			733			733		
d_b, Bicycle Delay [s]	12.69			13.35			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.334			2.491			2.046			1.754		
Bicycle LOS	B			B			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	78.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.937

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	34	759	107	92	1069	23	59	68	116	80	44	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	46	0	0	0	0	64	18	2	12	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	27	0	0	22	0	0	32	0	0	12
Total Hourly Volume [veh/h]	80	759	80	92	1069	65	77	70	96	80	51	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	200	21	24	281	17	20	18	25	21	13	10
Total Analysis Volume [veh/h]	84	799	84	97	1125	68	81	74	101	84	54	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	16	16	4	16	16	28	28	28	28
g / C, Green / Cycle	0.06	0.26	0.26	0.07	0.27	0.27	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.24	0.06	0.32	0.32	1.24	0.06	1.57	0.02
s, saturation flow rate [veh/h]	1714	1900	1837	1714	1900	1862	125	1615	88	1615
c, Capacity [veh/h]	108	504	487	122	520	510	149	749	137	749
d1, Uniform Delay [s]	27.71	21.22	21.22	27.42	21.79	21.79	19.57	9.21	21.94	8.85
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.50	20.62	21.16	10.90	90.78	92.05	84.31	0.08	78.29	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.78	0.89	0.89	0.79	1.16	1.16	1.04	0.13	1.01	0.05
d, Delay for Lane Group [s/veh]	39.21	41.84	42.38	38.33	112.58	113.84	103.88	9.29	100.23	8.87
Lane Group LOS	D	D	D	D	F	F	F	A	F	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.47	8.40	8.20	1.67	19.73	19.52	5.55	0.67	4.88	0.25
50th-Percentile Queue Length [ft/ln]	36.72	210.11	205.00	41.63	493.27	487.95	138.78	16.66	121.90	6.17
95th-Percentile Queue Length [veh/ln]	2.64	13.16	12.90	3.00	29.36	29.11	9.63	1.20	8.53	0.44
95th-Percentile Queue Length [ft/ln]	66.10	328.97	322.40	74.94	734.03	727.85	240.81	30.00	213.14	11.11

**Movement, Approach, & Intersection Results**

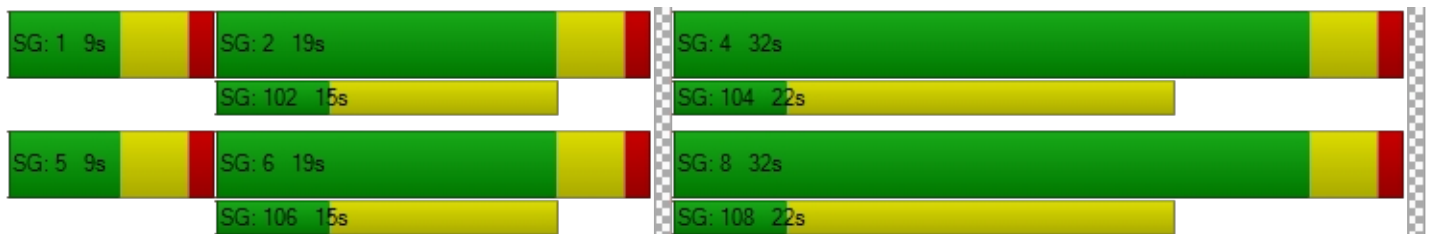
d_M, Delay for Movement [s/veh]	39.21	42.07	42.38	38.33	113.17	113.84	103.88	103.88	9.29	100.23	100.23	8.87
Movement LOS	D	D	D	D	F	F	F	F	A	F	F	A
d_A, Approach Delay [s/veh]	41.85			107.57			66.56			80.10		
Approach LOS	D			F			E			F		
d_I, Intersection Delay [s/veh]	78.24											
Intersection LOS	E											
Intersection V/C	1.937											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.894	2.864	2.134	2.091
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	933	933
d_b, Bicycle Delay [s]	16.88	16.88	8.53	8.53
I_b,int, Bicycle LOS Score for Intersection	2.380	2.642	2.035	1.871
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	28	769	1	19	1167	28	109	30	35	24	19	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	46	0	0	12	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	7	0	0	9	0	0	5
Total Hourly Volume [veh/h]	28	815	1	19	1179	21	109	30	26	24	19	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	214	0	5	310	6	29	8	7	6	5	4
Total Analysis Volume [veh/h]	29	858	1	20	1241	22	115	32	27	25	20	16
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	39	39	1	38	38	8	8
g / C, Green / Cycle	0.03	0.65	0.65	0.02	0.64	0.64	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.01	0.33	0.33	0.11	0.03
s, saturation flow rate [veh/h]	1714	1900	1899	1714	1900	1888	1650	1772
c, Capacity [veh/h]	57	1223	1223	42	1207	1200	317	318
d1, Uniform Delay [s]	28.57	4.93	4.93	28.91	5.99	5.99	25.08	23.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.96	0.79	0.80	7.93	1.63	1.64	1.48	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.35	0.35	0.47	0.52	0.52	0.55	0.19
d, Delay for Lane Group [s/veh]	35.53	5.72	5.72	36.84	7.62	7.64	26.56	23.72
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.50	1.95	1.95	0.36	3.56	3.54	2.37	0.76
50th-Percentile Queue Length [ft/ln]	12.51	48.79	48.77	9.11	88.92	88.54	59.34	18.97
95th-Percentile Queue Length [veh/ln]	0.90	3.51	3.51	0.66	6.40	6.38	4.27	1.37
95th-Percentile Queue Length [ft/ln]	22.52	87.82	87.79	16.39	160.05	159.38	106.81	34.15

**Movement, Approach, & Intersection Results**

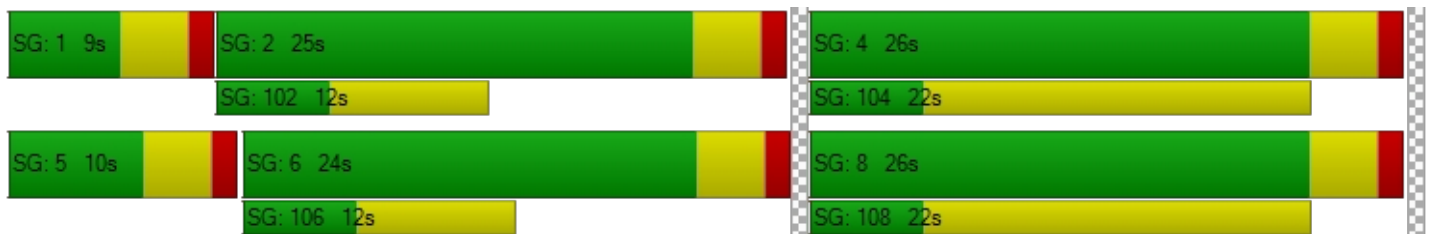
d_M, Delay for Movement [s/veh]	35.53	5.72	5.72	36.84	7.63	7.64	26.56	26.56	26.56	23.72	23.72	23.72
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.70			8.09			26.56			23.72		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.31											
Intersection LOS	A											
Intersection V/C	0.456											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.743			2.899			1.836			1.761		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.292			2.624			1.862			1.669		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	172	713	13	27	1316	100	34	18	97	71	49	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	0	10	2	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	26	0	0	24	0	0	4
Total Hourly Volume [veh/h]	172	752	10	27	1326	76	41	18	73	71	49	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	198	3	7	349	20	11	5	19	19	13	3
Total Analysis Volume [veh/h]	181	792	11	28	1396	80	43	19	77	75	52	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	21	0	9	18	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	39	39	2	34	34	7	7
g / C, Green / Cycle	0.13	0.66	0.66	0.03	0.56	0.56	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.11	0.21	0.21	0.02	0.39	0.39	0.08	0.09
s, saturation flow rate [veh/h]	1714	1900	1891	1714	1900	1864	1758	1552
c, Capacity [veh/h]	225	1249	1243	57	1063	1043	271	263
d1, Uniform Delay [s]	25.38	4.48	4.48	28.58	9.59	9.62	25.89	26.13
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.59	0.68	0.69	6.40	3.82	3.97	1.50	1.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.32	0.32	0.49	0.70	0.70	0.51	0.53
d, Delay for Lane Group [s/veh]	31.97	5.16	5.16	34.98	13.41	13.59	27.39	27.78
Lane Group LOS	C	A	A	C	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.77	1.69	1.68	0.48	6.59	6.56	1.92	1.94
50th-Percentile Queue Length [ft/ln]	69.14	42.18	42.01	11.97	164.84	164.01	47.91	48.59
95th-Percentile Queue Length [veh/ln]	4.98	3.04	3.02	0.86	10.80	10.76	3.45	3.50
95th-Percentile Queue Length [ft/ln]	124.45	75.93	75.61	21.55	270.12	269.02	86.24	87.47

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	31.97	5.16	5.16	34.98	13.49	13.59	27.39	27.39	27.39	27.78	27.78	27.78
Movement LOS	C	A	A	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	10.09			13.90			27.39			27.78		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.92											
Intersection LOS	B											
Intersection V/C	0.588											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.72			21.72			21.72			21.72		
I_p,int, Pedestrian LOS Score for Intersection	2.891			2.843			1.974			1.801		
Crosswalk LOS	C			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	566			466			865			865		
d_b, Bicycle Delay [s]	15.45			17.67			9.67			9.67		
I_b,int, Bicycle LOS Score for Intersection	2.374			2.822			1.829			1.796		
Bicycle LOS	B			C			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	25.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.763

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	640	171	295	1162	6	8	0	10	342	1	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	0	10	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	43	0	0	2	0	0	3	0	0	22
Total Hourly Volume [veh/h]	4	679	128	295	1172	4	8	0	7	342	1	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	179	34	78	308	1	2	0	2	90	0	17
Total Analysis Volume [veh/h]	4	715	135	311	1234	4	8	0	7	360	1	69
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	26	0	18	32	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Version 2021 (SP 0-2)

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	22	22	14	36	36	22	22	22
g / C, Green / Cycle	0.01	0.31	0.31	0.20	0.51	0.51	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.00	0.23	0.23	0.18	0.33	0.33	0.10	0.35	0.04
s, saturation flow rate [veh/h]	1714	1900	1796	1714	1900	1898	143	1027	1615
c, Capacity [veh/h]	12	597	565	344	965	964	124	425	507
d1, Uniform Delay [s]	34.65	21.40	21.41	27.38	12.60	12.60	19.57	25.25	17.24
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.32	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.16	7.70	8.14	8.89	3.27	3.28	0.43	12.85	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.33	0.73	0.73	0.90	0.64	0.64	0.12	0.85	0.14
d, Delay for Lane Group [s/veh]	49.81	29.10	29.55	36.27	15.87	15.88	20.01	38.11	17.36
Lane Group LOS	D	C	C	D	B	B	C	D	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.12	7.21	6.89	5.67	7.02	7.01	0.17	7.35	0.77
50th-Percentile Queue Length [ft/ln]	2.92	180.24	172.29	141.66	175.42	175.36	4.33	183.75	19.28
95th-Percentile Queue Length [veh/ln]	0.21	11.61	11.20	9.57	11.36	11.36	0.31	11.80	1.39
95th-Percentile Queue Length [ft/ln]	5.26	290.33	279.93	239.26	284.03	283.95	7.80	294.91	34.71



**Movement, Approach, & Intersection Results**

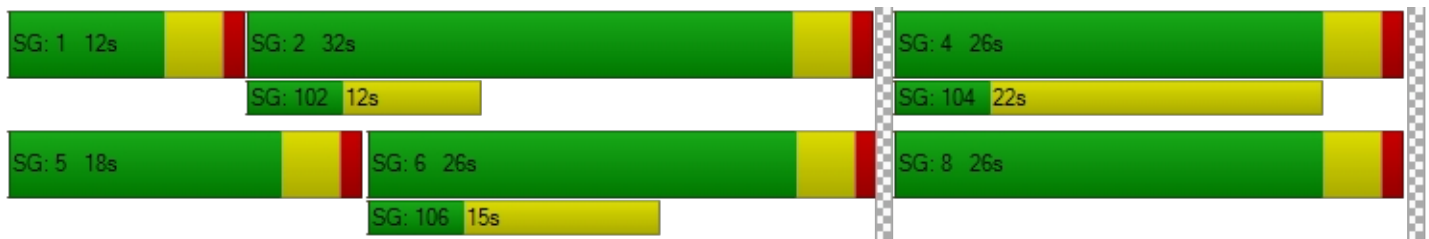
d_M, Delay for Movement [s/veh]	49.81	29.28	29.55	36.27	15.88	15.88	20.01	20.01	20.01	38.11	38.11	17.36
Movement LOS	D	C	C	D	B	B	C	C	C	D	D	B
d_A, Approach Delay [s/veh]	29.41			19.97			20.01			34.78		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	25.04											
Intersection LOS	C											
Intersection V/C	0.763											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.61			26.61			26.61		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.764			1.722			2.266		
Crosswalk LOS	F			C			A			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	628			799			628			628		
d_b, Bicycle Delay [s]	16.49			12.63			16.49			16.49		
I_b,int, Bicycle LOS Score for Intersection	2.300			2.839			1.589			2.305		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	53.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.845

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	66	355	417	560	782	43	34	70	49	315	117	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	8	3	0	0	0	0	0	0	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	104	0	0	11	0	0	12	0	0	127
Total Hourly Volume [veh/h]	66	366	313	568	785	32	34	70	37	315	117	382
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	96	82	149	207	8	9	18	10	83	31	101
Total Analysis Volume [veh/h]	69	385	329	598	826	34	36	74	39	332	123	402
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	33	24	0	34	25	0	0	10	0	0	27	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	20	20	30	45	45	6	6	23
g / C, Green / Cycle	0.05	0.21	0.21	0.32	0.48	0.48	0.06	0.06	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.20	0.33	0.23	0.02	0.02	0.06	0.25
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1791	1833
c, Capacity [veh/h]	92	766	342	571	1724	770	113	112	444
d1, Uniform Delay [s]	44.53	33.05	37.09	32.54	16.88	13.31	42.65	44.58	36.03
k, delay calibration	0.11	0.50	0.50	0.49	0.50	0.50	0.11	0.11	0.29
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.50	2.35	39.87	50.13	0.96	0.11	1.61	42.73	39.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.50	0.96	1.05	0.48	0.04	0.32	1.01	1.03
d, Delay for Lane Group [s/veh]	56.03	35.40	76.96	82.67	17.84	13.42	44.26	87.30	75.45
Lane Group LOS	E	D	E	F	B	B	D	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.89	4.11	11.20	20.61	6.08	0.40	0.85	3.93	14.88
50th-Percentile Queue Length [ft/ln]	47.13	102.86	280.02	515.35	152.10	10.08	21.33	98.17	372.06
95th-Percentile Queue Length [veh/ln]	3.39	7.41	16.69	28.92	10.13	0.73	1.54	7.07	21.52
95th-Percentile Queue Length [ft/ln]	84.83	185.14	417.24	723.02	253.23	18.14	38.40	176.71	538.05

**Movement, Approach, & Intersection Results**

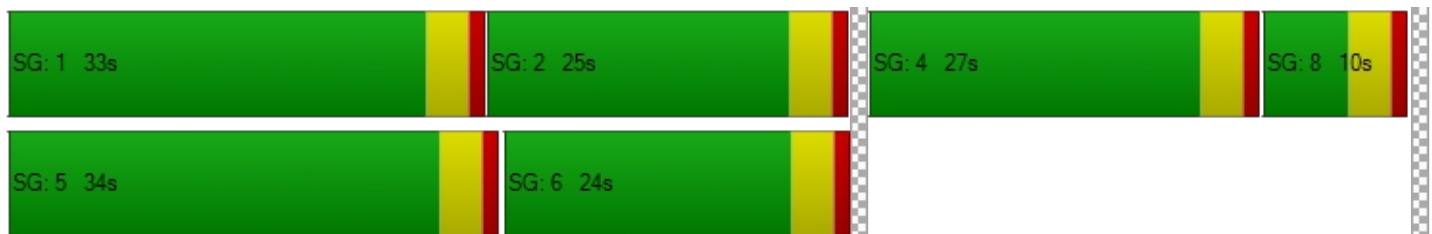
d_M, Delay for Movement [s/veh]	56.03	35.40	76.96	82.67	17.84	13.42	44.26	87.30	87.30	75.45	75.45	0.00
Movement LOS	E	D	E	F	B	B	D	F	F	E	E	
d_A, Approach Delay [s/veh]	54.68			44.33			76.90			75.45		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	53.86											
Intersection LOS	D											
Intersection V/C	0.845											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	421			442			126			484		
d_b, Bicycle Delay [s]	29.62			28.84			41.71			27.30		
I_b,int, Bicycle LOS Score for Intersection	2.291			2.772			1.825			2.310		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	25.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	6	280	22	383	416	573	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	8	0	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	96	0	0	5	0	0	55
Total Hourly Volume [veh/h]	9	5	4	280	22	287	416	581	16	5	579	166
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	74	6	76	109	153	4	1	152	44
Total Analysis Volume [veh/h]	9	5	4	295	23	302	438	612	17	5	609	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	26	35	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	20	34	34	1	15	15
g / C, Green / Cycle	0.38	0.38	0.38	0.27	0.46	0.46	0.01	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.05	0.30	0.19	0.24	0.17	0.01	0.00	0.17	0.11
s, saturation flow rate [veh/h]	386	1057	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	217	489	606	482	1652	737	15	717	320
d1, Uniform Delay [s]	17.93	21.54	18.02	26.66	13.35	11.21	37.04	29.02	27.07
k, delay calibration	0.50	0.50	0.50	0.16	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	6.56	2.91	9.68	0.14	0.01	12.84	2.92	1.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.08	0.65	0.50	0.91	0.37	0.02	0.34	0.85	0.55
d, Delay for Lane Group [s/veh]	18.68	28.09	20.93	36.34	13.48	11.22	49.89	31.94	28.52
Lane Group LOS	B	C	C	D	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.23	5.63	4.25	8.47	3.14	0.15	0.14	5.35	2.84
50th-Percentile Queue Length [ft/ln]	5.74	140.72	106.36	211.81	78.44	3.69	3.55	133.81	71.06
95th-Percentile Queue Length [veh/ln]	0.41	9.52	7.64	13.25	5.65	0.27	0.26	9.15	5.12
95th-Percentile Queue Length [ft/ln]	10.32	237.99	190.92	331.14	141.20	6.63	6.39	228.67	127.91

**Movement, Approach, & Intersection Results**

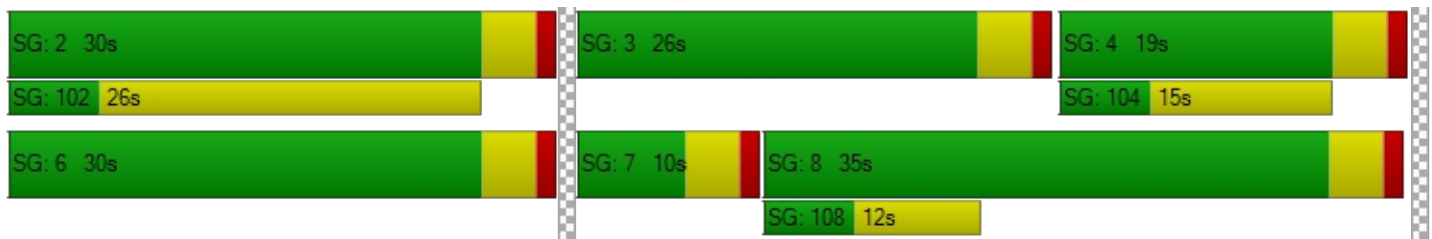
d_M, Delay for Movement [s/veh]	18.68	18.68	18.68	28.09	28.09	20.93	36.34	13.48	11.22	49.89	31.94	28.52
Movement LOS	B	B	B	C	C	C	D	B	B	D	C	C
d_A, Approach Delay [s/veh]	18.68			24.60			22.83			31.29		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	25.92											
Intersection LOS	C											
Intersection V/C	0.711											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.07	29.07	29.07	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.744	2.521	2.805	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	826	400
d_b, Bicycle Delay [s]	16.03	16.03	12.93	24.03
I_b,int, Bicycle LOS Score for Intersection	1.593	2.741	2.444	2.256
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	18.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.572

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	773	203	38	786	0	4	31	82	101	17	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	28	0	0	8	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	21	0	0	6
Total Hourly Volume [veh/h]	58	801	152	38	794	0	4	31	61	101	17	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	211	40	10	209	0	1	8	16	27	4	4
Total Analysis Volume [veh/h]	61	843	160	40	836	0	4	33	64	106	18	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	22	0	9	19	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	50	50	3	49	49	5	5	7	7
g / C, Green / Cycle	0.05	0.62	0.62	0.04	0.61	0.61	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.44	0.10	0.02	0.44	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	1810	1750
c, Capacity [veh/h]	87	1174	998	70	1156	983	115	99	150	145
d1, Uniform Delay [s]	37.62	10.52	6.50	37.92	10.98	0.00	36.06	36.82	35.82	34.41
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.88	3.79	0.34	7.29	3.94	0.00	1.58	6.97	5.93	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.72	0.16	0.58	0.72	0.00	0.32	0.65	0.71	0.24
d, Delay for Lane Group [s/veh]	47.51	14.31	6.84	45.21	14.92	0.00	37.64	43.79	41.75	35.26
Lane Group LOS	D	B	A	D	B	A	D	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	9.68	1.08	0.90	9.90	0.00	0.73	1.39	2.22	0.66
50th-Percentile Queue Length [ft/ln]	34.86	241.96	27.12	22.47	247.50	0.00	18.27	34.81	55.55	16.51
95th-Percentile Queue Length [veh/ln]	2.51	14.78	1.95	1.62	15.06	0.00	1.32	2.51	4.00	1.19
95th-Percentile Queue Length [ft/ln]	62.75	369.51	48.82	40.45	376.51	0.00	32.89	62.65	100.00	29.72

**Movement, Approach, & Intersection Results**

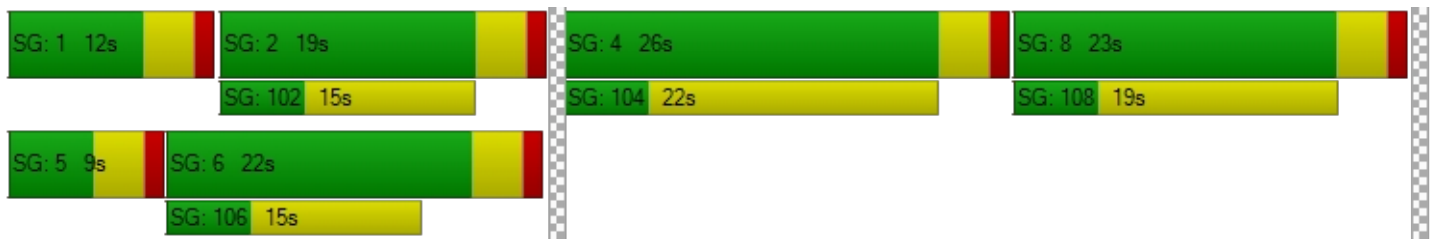
d_M, Delay for Movement [s/veh]	47.51	14.31	6.84	45.21	14.92	0.00	37.64	37.64	43.79	41.75	35.26	35.26
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.09			16.31			41.54			40.14		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.42											
Intersection LOS	B											
Intersection V/C	0.572											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	31.56			31.56			31.56			31.56		
I_p,int, Pedestrian LOS Score for Intersection	2.721			2.636			2.031			2.085		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	449			374			474			549		
d_b, Bicycle Delay [s]	24.08			26.46			23.31			21.08		
I_b,int, Bicycle LOS Score for Intersection	3.399			3.005			1.761			1.802		
Bicycle LOS	C			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-









**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.395

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1011	197	42	904	0	0	0	9	215	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	28	0	0	8	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	49	0	0	0	0	0	2	0	0	11
Total Hourly Volume [veh/h]	30	1039	148	42	912	0	0	0	7	215	5	32
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	273	39	11	240	0	0	0	2	57	1	8
Total Analysis Volume [veh/h]	32	1094	156	44	960	0	0	0	7	226	5	34
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	25	9	22	0	0	10	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	44	44	3	44	44	1	1	7	7	7
g / C, Green / Cycle	0.03	0.62	0.62	0.04	0.63	0.63	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.30	0.10	0.02	0.25	0.25	0.00	0.00	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1813	1615
c, Capacity [veh/h]	64	2241	1000	78	1192	1192	21	18	179	179	160
d1, Uniform Delay [s]	33.30	7.29	5.63	32.97	6.52	6.52	0.00	34.52	30.47	30.47	29.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.06	0.76	0.33	6.27	1.01	1.01	0.00	13.97	3.86	3.85	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.50	0.49	0.16	0.56	0.40	0.40	0.00	0.40	0.65	0.64	0.21
d, Delay for Lane Group [s/veh]	39.35	8.06	5.96	39.25	7.54	7.54	0.00	48.49	34.33	34.31	29.80
Lane Group LOS	D	A	A	D	A	A	A	D	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.63	3.75	0.87	0.85	3.12	3.12	0.00	0.18	2.00	2.00	0.54
50th-Percentile Queue Length [ft/ln]	15.64	93.85	21.67	21.18	77.90	77.90	0.00	4.59	50.05	50.12	13.48
95th-Percentile Queue Length [veh/ln]	1.13	6.76	1.56	1.53	5.61	5.61	0.00	0.33	3.60	3.61	0.97
95th-Percentile Queue Length [ft/ln]	28.16	168.92	39.00	38.13	140.22	140.22	0.00	8.25	90.10	90.22	24.27

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	39.35	8.06	5.96	39.25	7.54	7.54	0.00	0.00	48.49	34.32	34.31	29.80
Movement LOS	D	A	A	D	A	A	A	A	D	C	C	C
d_A, Approach Delay [s/veh]	8.58			8.93			48.49			33.74		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	11.43											
Intersection LOS	B											
Intersection V/C	0.395											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.707			0.000			2.264		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	599			513			171			627		
d_b, Bicycle Delay [s]	17.21			19.37			29.32			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.658			2.388			1.574			2.015		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	←			→						←		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	158	278	0	0	1003	144	0	0	0	116	0	979
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	8	0	0	0	0	0	0	28
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	36	0	0	0	0	0	252
Total Hourly Volume [veh/h]	158	278	0	0	1011	108	0	0	0	116	0	755
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	73	0	0	266	28	0	0	0	31	0	199
Total Analysis Volume [veh/h]	166	293	0	0	1064	114	0	0	0	122	0	795
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	11	20	0	0	9	0	0	0	0	40	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.59		0.09
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.29		0.07
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	211	2804	2141		166
d1, Uniform Delay [s]	25.83	1.66	7.10		26.60
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	6.32	0.07	0.83		6.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.79	0.10	0.50		0.73
d, Delay for Lane Group [s/veh]	32.15	1.73	7.93		32.71
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.54	0.17	3.19		1.89
50th-Percentile Queue Length [ft/ln]	63.51	4.14	79.68		47.25
95th-Percentile Queue Length [veh/ln]	4.57	0.30	5.74		3.40
95th-Percentile Queue Length [ft/ln]	114.32	7.45	143.42		85.05

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	32.15	1.73	0.00	0.00	7.93	0.00	0.00	0.00	0.00	0.00	32.71	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	12.73			7.93			0.00			32.71			
Approach LOS	B			A			A			C			
d_I, Intersection Delay [s/veh]	11.11												
Intersection LOS	B												
Intersection V/C	0.453												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.961		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			166			0			1198		
d_b, Bicycle Delay [s]	16.17			25.25			30.04			4.83		
I_b,int, Bicycle LOS Score for Intersection	1.938			2.437			4.132			1.560		
Bicycle LOS	A			B			D			A		

**Sequence**




Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	23.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.673

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	176	664	417	0	179	0	705	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	8	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	44	0	0	0	0	0	176	0	0	0
Total Hourly Volume [veh/h]	0	301	132	672	417	0	179	0	529	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	79	35	177	110	0	47	0	139	0	0	0
Total Analysis Volume [veh/h]	0	317	139	707	439	0	188	0	557	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	31	43	0	17	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	10	25	39	13	13	
g / C, Green / Cycle	0.16	0.42	0.65	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.39	0.12	0.10	0.19	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	594	759	2351	393	621	
d1, Uniform Delay [s]	23.04	16.65	4.20	20.57	22.90	
k, delay calibration	0.50	0.29	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.42	13.23	0.18	0.90	4.94	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.53	0.93	0.19	0.48	0.90	
d, Delay for Lane Group [s/veh]	26.46	29.88	4.37	21.48	27.84	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	2.20	10.70	0.80	2.24	3.95	
50th-Percentile Queue Length [ft/ln]	55.06	267.54	19.91	55.89	98.72	
95th-Percentile Queue Length [veh/ln]	3.96	16.07	1.43	4.02	7.11	
95th-Percentile Queue Length [ft/ln]	99.11	401.67	35.84	100.60	177.70	

**Movement, Approach, & Intersection Results**

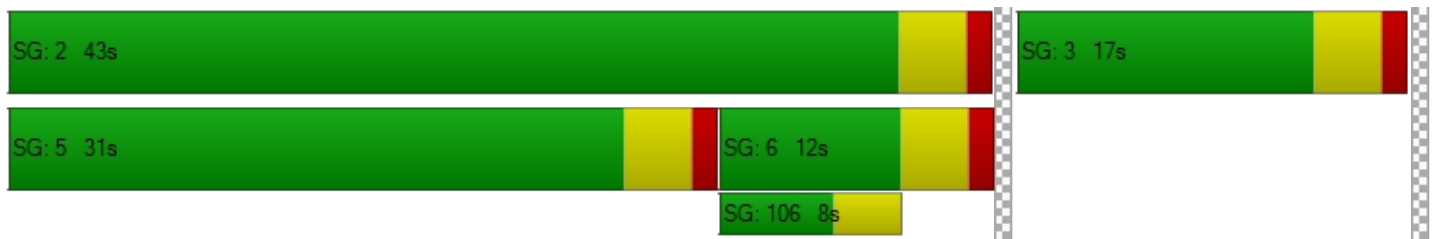
d_M, Delay for Movement [s/veh]	0.00	26.46	0.00	29.88	4.37	0.00	21.48	0.00	27.84	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	26.46			20.11			26.23			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	23.09											
Intersection LOS	C											
Intersection V/C	0.673											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.093		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			1298			433			0		
d_b, Bicycle Delay [s]	22.57			3.70			18.45			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.821			2.505			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	14	0	0	13	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	7	30	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	0	7	43	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	2	11	0	1
Total Analysis Volume [veh/h]	23	0	7	45	0	2
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.27	0.00	8.94	8.42
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.33	0.33	0.14	0.14
d_A, Approach Delay [s/veh]	0.00		0.98		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.88					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	14	0	0	13	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	7	24	0	0	0	0	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	20	0	7	37	0	0	0	0	0	0	2
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	0	2	10	0	0	0	0	0	0	1
Total Analysis Volume [veh/h]	0	21	0	7	39	0	0	0	0	0	0	2
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.85	9.12	8.40	8.84	9.23	8.53	7.22	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.16	0.16	0.16	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.80	1.80	1.80	3.99	3.99	3.99	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.12			9.17			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.89											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	14	0	0	13	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	3	4	20	0	0	0	0	11	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	19	3	4	33	0	0	0	0	11	0	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	1	1	9	0	0	0	0	3	0	0
Total Analysis Volume [veh/h]	0	20	3	4	35	0	0	0	0	12	0	1
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.25	0.00	0.00	8.87	9.36	8.45	8.91	9.40	8.44
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.19	0.19	0.19	0.00	0.00	0.00	1.05	1.05	1.05
d_A, Approach Delay [s/veh]	0.00			0.74			8.89			8.88		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.93											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	454	553	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	8	30	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	462	583	0	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	122	153	0	0	1
Total Analysis Volume [veh/h]	7	486	614	0	0	2
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.72	0.00	0.00	0.00	0.00	12.29
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.54	0.54	0.00	0.00	0.00	0.30
d_A, Approach Delay [s/veh]	0.12		0.00		12.29	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	454	0	0	553	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	14	7	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	469	0	14	560	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	123	0	4	147	0	1
Total Analysis Volume [veh/h]	494	0	15	589	0	4
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0





**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.38	0.00	0.00	11.26
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.06	1.06	0.00	0.52
d_A, Approach Delay [s/veh]	0.00		0.21		11.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	3.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.341

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	454	0	0	553	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	22	23	0	6	3	1	0	4	6	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	1	0	0	1	0	0	0
Total Hourly Volume [veh/h]	15	476	17	0	559	2	1	0	3	6	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	125	4	0	147	1	0	0	1	2	0	0
Total Analysis Volume [veh/h]	16	501	18	0	588	2	1	0	3	6	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	33	0	9	32	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	52	0	51	1	1
g / C, Green / Cycle	0.02	0.81	0.00	0.79	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.01	0.29	0.00	0.33	0.00	0.00
s, saturation flow rate [veh/h]	1714	1789	1714	1799	1725	1653
c, Capacity [veh/h]	36	1439	3	1412	86	127
d1, Uniform Delay [s]	31.50	1.76	0.00	2.24	32.01	32.05
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.11	0.70	0.00	0.91	0.22	0.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.44	0.36	0.00	0.42	0.05	0.05
d, Delay for Lane Group [s/veh]	39.61	2.46	0.00	3.16	32.23	32.20
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.31	0.28	0.00	1.21	0.07	0.10
50th-Percentile Queue Length [ft/ln]	7.76	7.04	0.00	30.36	1.64	2.40
95th-Percentile Queue Length [veh/ln]	0.56	0.51	0.00	2.19	0.12	0.17
95th-Percentile Queue Length [ft/ln]	13.97	12.66	0.00	54.64	2.95	4.31

**Movement, Approach, & Intersection Results**

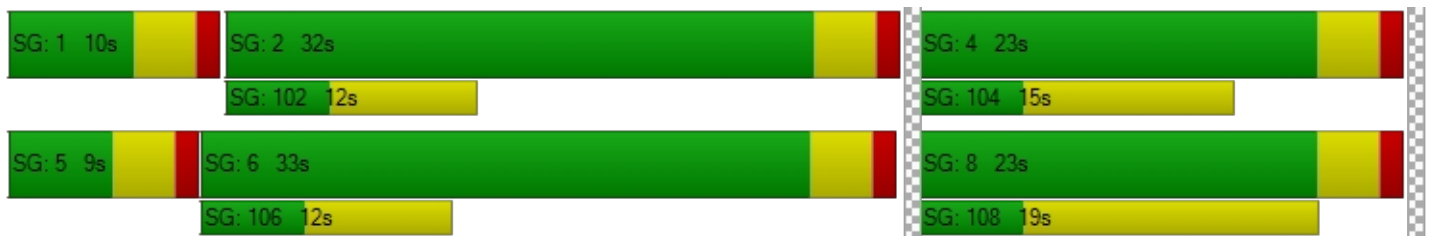
d_M, Delay for Movement [s/veh]	39.61	2.46	2.46	0.00	3.16	3.16	32.23	32.23	32.23	32.20	32.20	32.20
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.57			3.16			32.23			32.20		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	3.61											
Intersection LOS	A											
Intersection V/C	0.341											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.16			24.16			24.16			24.16		
I_p,int, Pedestrian LOS Score for Intersection	2.498			2.283			1.713			1.714		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	891			861			584			584		
d_b, Bicycle Delay [s]	10.00			10.56			16.31			16.31		
I_b,int, Bicycle LOS Score for Intersection	2.452			2.535			1.568			1.570		
Bicycle LOS	B			B			A			A		

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	220	108	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	7	15	53	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	7	235	161	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	2	62	42	2
Total Analysis Volume [veh/h]	2	2	7	247	169	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.24	9.14	7.56	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.43	0.43	0.37	0.37	0.00	0.00
d_A, Approach Delay [s/veh]	10.19		0.21		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	59	28	28	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	1	7	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	63	29	35	2	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	8	9	1	0
Total Analysis Volume [veh/h]	0	66	31	37	2	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.33	0.00	0.00	0.00	9.07	8.52
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.17	0.17
d_A, Approach Delay [s/veh]	0.00		0.00		9.07	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	9	0	0	40	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	7	0	4	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	7	0	44	2	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	2	0	12	1	0
Total Analysis Volume [veh/h]	25	7	0	46	2	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.26	0.00	8.86	8.43
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.16	0.16
d_A, Approach Delay [s/veh]	0.00		0.00		8.86	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	9	0	0	40	0	0	0	0	0	0	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	0	22	3	0	6	0	0	0	0	1	0	
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	0	31	3	0	46	0	0	0	0	1	0	
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	0	8	1	0	12	0	0	0	0	0	0	
Total Analysis Volume [veh/h]	0	33	3	0	48	0	0	0	0	1	0	
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.29	0.00	0.00	7.27	0.00	0.00	8.96	9.44	8.51	8.96	9.44	8.45
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.08
d_A, Approach Delay [s/veh]	0.00			0.00			8.97			8.96		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.11											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	187	111	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	23	85	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	0	210	196	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	55	52	2
Total Analysis Volume [veh/h]	2	0	0	221	206	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.53	8.88	7.63	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.23	0.23	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.53		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	B					



**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	63	59	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	63	59	0	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	17	16	0	0	1
Total Analysis Volume [veh/h]	14	66	62	0	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	0.00	9.34	8.58
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.68	0.68	0.00	0.00	0.30	0.30
d_A, Approach Delay [s/veh]	1.28		0.00		8.58	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.94					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	63	59	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	13	4	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	76	63	0	0	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	20	17	0	0	1
Total Analysis Volume [veh/h]	12	80	66	0	0	3
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.34	0.00	0.00	0.00	9.41	8.60
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.59	0.59	0.00	0.00	0.22	0.22
d_A, Approach Delay [s/veh]	0.96		0.00		8.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.71					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

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**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	641	804	489	972	741	1222	1074	605	413	707	7668

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	280	1261	88	550	1001	307	309	271	101	49	348	350	4915

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1537	23	79	1030	10	63	2742

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	134	1256	64	105	854	65	148	101	75	86	103	144	3135

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	11	3	10	13	0	12	13	472	29	21	231	10	825

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	79	322	61	9	199	7	14	171	281	103	145	25	1416

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	306	46	37	241	39	150	819

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	13	10	39	34	12	42	5	256	19	10	360	10	810

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	43	4	2	235	164	32	480

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	7	38	6	21	18	27	8	189	15	3	170	41	543

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	396	1200	1360	1012	393	5	486	4852

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1508	395	487	1307	608	4	510	4819

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	5	1512	4	80	1560	190	103	0	35	0	0	103	3592

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	99	979	12	314	1072	174	205	75	54	10	117	270	3381

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	69	798	25	62	939	73	127	63	91	10	65	38	2360

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	80	759	107	92	1069	87	77	70	128	80	51	49	2649

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	28	815	1	19	1179	28	109	30	35	24	19	20	2307

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	172	752	13	27	1326	102	41	18	97	71	49	15	2683

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	679	171	295	1172	6	8	0	10	342	1	88	2776

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	66	366	417	568	785	43	34	70	49	315	117	509	3339

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	6	280	22	383	416	581	21	5	579	221	2528

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	58	801	203	38	794	0	4	31	82	101	17	22	2151

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	30	1039	197	42	912	0	0	0	9	215	5	43	2492

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	158	278	1011	144	116	1007	2714

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	301	176	672	417	179	705	2450

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	22	0	7	43	0	2	74

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume	
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
27	Laurel Ave/Driveway 2	0	20	0	7	37	0	0	0	0	0	0	0	2	66

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	19	3	4	33	0	0	0	0	11	0	1	71

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	7	462	583	0	2	1054	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	469	0	14	560	4	1047	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	15	476	23	0	559	3	1	0	4	6	0	0	1087



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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	2	2	7	235	161	7	414

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	63	29	35	2	0	129

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	24	7	0	44	2	0	77

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	31	3	0	46	0	0	0	0	1	0	0	81

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	2	0	0	210	196	8	416

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	13	63	59	0	0	4	139

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	11	76	63	0	0	3	153

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Scenario 11 2040 AM + P

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**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	SB Left	0.777	41.9	D
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	SB Left	0.558	35.4	D
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.368	4.8	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	WB Left	0.451	20.7	C
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	0.678	13.8	B
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	NB Thru	1.052	62.7	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Left	0.103	17.2	C
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	SB Left	0.117	19.1	C
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.083	12.1	B
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	0.301	9.3	A
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	0.978	53.4	D
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	0.934	59.5	E
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	EB Left	0.543	9.2	A
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	WB Left	0.727	38.8	D
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Left	0.496	13.6	B
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	SB Right	1.923	93.1	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Left	0.457	9.3	A
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Left	0.589	13.9	B
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	NB Left	0.766	25.2	C
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	EB Thru	0.847	54.1	D
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	WB Left	0.715	26.0	C
22	Market St/24th St	Signalized	HCM 6th Edition	NB Left	0.573	18.5	B
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.398	11.4	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.454	11.1	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.674	23.1	C
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.005	8.4	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	SB Thru	0.052	9.2	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.017	9.0	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.004	12.4	B
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.009	11.3	B
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	NB Left	0.346	4.0	A
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.004	11.5	B
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.003	9.1	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.002	8.9	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.001	9.0	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.005	10.8	B
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.005	8.6	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.004	8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	41.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	633	801	489	972	728	1222	1074	0	571	413	0	707
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	5	0	0	18	0	0	0	46	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	122	0	0	306	0	0	154	0	0	177
Total Hourly Volume [veh/h]	646	806	367	972	746	916	1074	0	463	413	0	530
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	170	212	97	256	196	241	283	0	122	109	0	139
Total Analysis Volume [veh/h]	680	848	386	1023	785	964	1131	0	487	435	0	558
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		2			3			3			1	
v_ci, Inbound Pedestrian Volume crossing mi		1			3			3			2	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	32	0	40	32	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	31	36	41	41	41
g / C, Green / Cycle	0.22	0.26	0.30	0.34	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.19	0.16	0.29	0.15	0.32	0.12
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	765	1334	1053	1758	1203	1203
d1, Uniform Delay [s]	45.46	39.50	41.46	30.81	38.21	29.57
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.76	2.32	7.78	0.82	4.35	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.89	0.64	0.97	0.45	0.94	0.36
d, Delay for Lane Group [s/veh]	49.22	41.82	49.24	31.63	42.55	29.75
Lane Group LOS	D	D	D	C	D	C
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	9.97	7.52	15.72	5.97	15.25	4.35
50th-Percentile Queue Length [ft/ln]	249.35	188.09	393.08	149.17	381.21	108.83
95th-Percentile Queue Length [veh/ln]	15.15	12.02	22.23	9.97	21.65	7.78
95th-Percentile Queue Length [ft/ln]	378.83	300.55	555.66	249.33	541.31	194.38

**Movement, Approach, & Intersection Results**

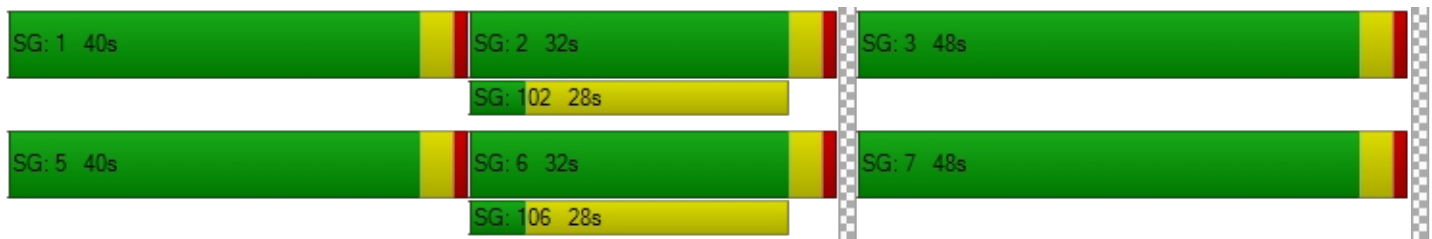
d_M, Delay for Movement [s/veh]	49.22	41.82	0.00	49.24	31.63	0.00	42.55	0.00	0.00	29.75	0.00	0.00
Movement LOS	D	D		D	C		D			C		
d_A, Approach Delay [s/veh]	45.12			41.59			42.55			29.75		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	41.86											
Intersection LOS	D											
Intersection V/C	0.777											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			51.30			51.30		
l_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.106			2.981		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	467			467			734			734		
d_b, Bicycle Delay [s]	35.23			35.23			24.04			24.04		
l_b,int, Bicycle LOS Score for Intersection	2.400			2.554			1.560			1.560		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	35.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.558

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	280	1249	88	550	954	307	309	271	101	49	348	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	17	0	0	64	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	22	0	0	77	0	0	25	0	0	88
Total Hourly Volume [veh/h]	280	1266	66	550	1018	230	309	271	76	49	348	262
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	333	17	145	268	61	81	71	20	13	92	69
Total Analysis Volume [veh/h]	295	1333	69	579	1072	242	325	285	80	52	366	276
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	28	40	0	24	36	0	16	46	0	10	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	13	57	57	20	64	64	12	23	23	4	15	39
g / C, Green / Cycle	0.10	0.47	0.47	0.17	0.54	0.54	0.10	0.19	0.19	0.03	0.13	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.20	0.20	0.16	0.25	0.25	0.09	0.08	0.05	0.01	0.10	0.10
s, saturation flow rate [veh/h]	3514	5176	1839	3514	3618	1727	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	367	2444	869	587	1934	923	353	696	311	124	460	936
d1, Uniform Delay [s]	52.55	20.90	20.90	49.88	17.23	17.27	53.52	42.50	41.19	56.72	50.90	30.07
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.12	0.54	1.51	14.52	0.79	1.66	9.92	0.39	0.43	2.27	3.20	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.42	0.42	0.99	0.46	0.46	0.92	0.41	0.26	0.42	0.80	0.30
d, Delay for Lane Group [s/veh]	56.67	21.43	22.41	64.40	18.01	18.94	63.44	42.89	41.63	58.99	54.09	30.25
Lane Group LOS	E	C	C	E	B	B	E	D	D	E	D	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.41	6.06	6.70	9.65	7.35	7.32	5.22	3.65	2.00	0.79	5.36	2.87
50th-Percentile Queue Length [ft/ln]	110.21	151.54	167.53	241.37	183.87	183.05	130.50	91.28	50.10	19.70	133.98	71.77
95th-Percentile Queue Length [veh/ln]	7.85	10.10	10.95	14.75	11.80	11.76	8.97	6.57	3.61	1.42	9.16	5.17
95th-Percentile Queue Length [ft/ln]	196.29	252.49	273.66	368.77	295.07	293.99	224.17	164.31	90.17	35.47	228.89	129.19

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.67	21.65	22.41	64.40	18.17	18.94	63.44	42.89	41.63	58.99	54.09	30.25
Movement LOS	E	C	C	E	B	B	E	D	D	E	D	C
d_A, Approach Delay [s/veh]	27.77			32.41			52.42			44.98		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.36											
Intersection LOS	D											
Intersection V/C	0.558											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	51.35	51.35	51.35	51.35
I_p,int, Pedestrian LOS Score for Intersection	3.428	3.551	3.086	3.303
Crosswalk LOS	C	D	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	533	700	600
d_b, Bicycle Delay [s]	29.41	32.28	25.36	29.41
I_b,int, Bicycle LOS Score for Intersection	2.269	2.643	2.149	2.205
Bicycle LOS	B	B	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	1525	23	79	983	10	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	0	0	64	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	16
Total Hourly Volume [veh/h]	1542	17	79	1047	10	47
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	406	4	21	276	3	12
Total Analysis Volume [veh/h]	1623	18	83	1102	11	49
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	24	0	9	33	37	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	50	50	4	59	4	4
g / C, Green / Cycle	0.72	0.72	0.06	0.84	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.31	0.01	0.02	0.21	0.01	0.03
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	3722	1161	207	4322	92	82
d1, Uniform Delay [s]	4.03	2.80	31.81	1.21	31.78	32.57
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	0.02	1.26	0.14	0.57	6.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.44	0.02	0.40	0.25	0.12	0.60
d, Delay for Lane Group [s/veh]	4.40	2.82	33.07	1.35	32.35	39.31
Lane Group LOS	A	A	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.42	0.04	0.69	0.20	0.19	0.94
50th-Percentile Queue Length [ft/ln]	35.62	0.95	17.32	5.07	4.68	23.56
95th-Percentile Queue Length [veh/ln]	2.56	0.07	1.25	0.36	0.34	1.70
95th-Percentile Queue Length [ft/ln]	64.11	1.70	31.17	9.12	8.43	42.40

**Movement, Approach, & Intersection Results**

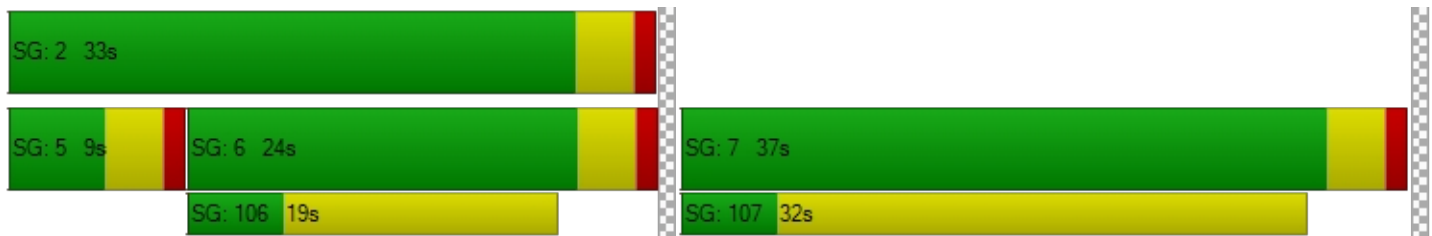
d_M, Delay for Movement [s/veh]	4.40	2.82	33.07	1.35	32.35	39.31
Movement LOS	A	A	C	A	C	D
d_A, Approach Delay [s/veh]	4.38		3.58		38.03	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.75					
Intersection LOS	A					
Intersection V/C	0.368					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.064	2.187
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	571	828	942
d_b, Bicycle Delay [s]	17.89	12.03	9.80
I_b,int, Bicycle LOS Score for Intersection	2.465	2.211	1.560
Bicycle LOS	B	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	134	1256	64	58	854	65	148	101	75	86	103	132
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	64	0	0	0	0	0	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	16	0	0	16	0	0	19	0	0	37
Total Hourly Volume [veh/h]	134	1256	48	122	854	49	148	101	56	86	103	112
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	331	13	32	225	13	39	27	15	23	27	29
Total Analysis Volume [veh/h]	141	1322	51	128	899	52	156	106	59	91	108	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	51	51	5	51	51	9	12	12	6	9	9
g / C, Green / Cycle	0.06	0.57	0.57	0.06	0.57	0.57	0.10	0.13	0.13	0.07	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.04	0.26	0.03	0.04	0.17	0.17	0.09	0.03	0.04	0.05	0.03	0.07
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1847	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	2928	914	199	2047	1045	182	486	217	119	360	161
d1, Uniform Delay [s]	41.81	11.42	8.78	41.65	10.29	10.29	39.91	34.80	35.06	41.43	37.69	39.44
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	0.50	0.12	3.47	0.39	0.76	10.87	0.22	0.67	9.68	0.46	6.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.45	0.06	0.64	0.31	0.31	0.86	0.22	0.27	0.76	0.30	0.73
d, Delay for Lane Group [s/veh]	46.44	11.92	8.89	45.13	10.68	11.06	50.77	35.03	35.73	51.11	38.15	45.78
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.65	4.84	0.45	1.47	3.14	3.32	3.90	1.04	1.19	2.29	1.12	2.79
50th-Percentile Queue Length [ft/ln]	41.27	121.07	11.21	36.83	78.47	83.03	97.53	26.01	29.76	57.14	27.94	69.66
95th-Percentile Queue Length [veh/ln]	2.97	8.45	0.81	2.65	5.65	5.98	7.02	1.87	2.14	4.11	2.01	5.02
95th-Percentile Queue Length [ft/ln]	74.28	211.30	20.17	66.29	141.24	149.46	175.55	46.83	53.57	102.84	50.29	125.39

**Movement, Approach, & Intersection Results**

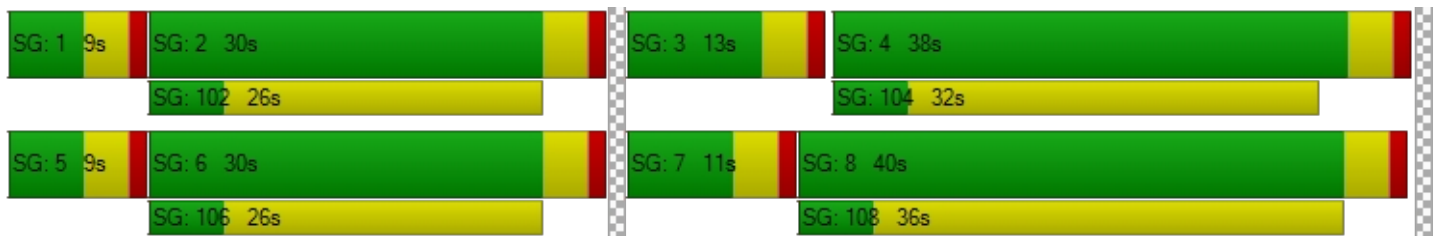
d_M, Delay for Movement [s/veh]	46.44	11.92	8.89	45.13	10.79	11.06	50.77	35.03	35.73	51.11	38.15	45.78
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.03			14.88			42.81			44.71		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	20.65											
Intersection LOS	C											
Intersection V/C	0.451											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	36.49	36.49	36.49	36.49
I_p,int, Pedestrian LOS Score for Intersection	3.155	3.082	2.588	2.613
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	577	577	799	755
d_b, Bicycle Delay [s]	22.80	22.80	16.24	17.46
I_b,int, Bicycle LOS Score for Intersection	2.401	2.162	1.840	1.852
Bicycle LOS	B	B	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.678

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	5	3	6	13	0	12	13	442	5	8	224	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	5	0	0	0	0	41	32	18	11	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	3	11	13	0	12	13	483	37	26	235	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	3	3	0	3	3	127	10	7	62	3
Total Analysis Volume [veh/h]	15	3	12	14	0	13	14	508	39	27	247	11
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	634	639	828	775
Degree of Utilization, x	0.05	0.04	0.68	0.37

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.15	0.13	5.43	1.70
95th-Percentile Queue Length [ft]	3.71	3.30	135.67	42.50
Approach Delay [s/veh]	8.95	8.88	15.98	10.33
Approach LOS	A	A	C	B
Intersection Delay [s/veh]	13.75			
Intersection LOS	B			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	62.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.052

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	75	320	59	9	192	7	14	154	265	96	128	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	2	2	0	9	0	0	23	23	9	23	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	322	61	9	201	7	14	177	288	105	151	25
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	85	16	2	53	2	4	47	76	28	40	7
Total Analysis Volume [veh/h]	85	339	64	9	212	7	15	186	303	111	159	26
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	488	411	504	427
Degree of Utilization, x	1.05	0.55	1.04	0.69

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	15.13	3.27	15.12	5.16
95th-Percentile Queue Length [ft]	378.19	81.74	377.95	128.91
Approach Delay [s/veh]	84.28	22.13	80.15	28.40
Approach LOS	F	C	F	D
Intersection Delay [s/veh]	62.65			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.103

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	299	39	22	239	37	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	9	18	2	2	70
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	308	48	40	241	39	167
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	13	11	63	10	44
Total Analysis Volume [veh/h]	324	51	42	254	41	176
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.04	0.00	0.10	0.25
d_M, Delay for Movement [s/veh]	0.00	0.00	8.12	0.00	17.24	13.36
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.11	0.11	1.60	1.60
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.73	2.73	39.97	39.97
d_A, Approach Delay [s/veh]	0.00		1.15		14.09	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.83					
Intersection LOS	C					



**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	19.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.117

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	10	10	39	34	12	42	5	250	6	10	340	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	0	0	0	0	7	18	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	10	39	34	12	42	5	257	24	10	368	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	3	10	9	3	11	1	68	6	3	97	3
Total Analysis Volume [veh/h]	16	11	41	36	13	44	5	271	25	11	387	11
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.03	0.05	0.12	0.04	0.07	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	18.09	16.35	10.90	19.06	17.67	12.84	8.09	0.00	0.00	7.84	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.48	0.48	0.48	0.83	0.83	0.83	0.01	0.01	0.01	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	11.90	11.90	11.90	20.78	20.78	20.78	0.32	0.32	0.32	0.65	0.65	0.65
d_A, Approach Delay [s/veh]	13.47			15.92			0.13			0.21		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.90											
Intersection LOS	C											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.083

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	36	4	2	218	104	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	21	79	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	4	2	239	183	40
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	1	1	63	48	11
Total Analysis Volume [veh/h]	46	4	2	252	193	42
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.10	9.94	7.68	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.18	7.18	0.11	0.11	0.00	0.00
d_A, Approach Delay [s/veh]	11.92		0.06		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.13					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.301

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	7	38	6	14	18	27	8	164	15	3	78	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	8	0	0	0	31	0	0	122	33
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	38	6	22	18	27	8	195	15	3	200	50
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	10	2	6	5	7	2	51	4	1	53	13
Total Analysis Volume [veh/h]	7	40	6	23	19	28	8	205	16	3	211	53
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	705	728	708	826	715	831
Degree of Utilization, x	0.08	0.10	0.30	0.02	0.30	0.06

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.24	0.32	1.26	0.06	1.26	0.20
95th-Percentile Queue Length [ft]	6.08	7.95	31.61	1.48	31.44	5.09
Approach Delay [s/veh]	8.52	8.47	9.76		9.37	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	9.34					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	53.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	386	1196	0	0	1345	1012	0	0	0	358	5	486
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	5	0	0	19	0	0	0	0	48	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	253	0	0	0	0	0	122
Total Hourly Volume [veh/h]	398	1201	0	0	1364	759	0	0	0	406	5	364
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	316	0	0	359	200	0	0	0	107	1	96
Total Analysis Volume [veh/h]	419	1264	0	0	1436	799	0	0	0	427	5	383
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0		0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0		0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0		0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		0		0		0		0		0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	22	63	0	0	41	0	0	0	0	0	22	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	85	85	85	85		85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	18	59	37	37		18	18
g / C, Green / Cycle	0.21	0.69	0.43	0.43		0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.24	0.35	0.28	0.49		0.24	0.24
s, saturation flow rate [veh/h]	1714	3618	5176	1615		1811	1615
c, Capacity [veh/h]	364	2510	2249	702		384	343
d1, Uniform Delay [s]	33.51	6.13	18.82	24.05		33.51	33.51
k, delay calibration	0.23	0.50	0.50	0.50		0.21	0.21
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	82.47	0.73	1.40	78.88		70.47	69.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.15	0.50	0.64	1.14		1.12	1.12
d, Delay for Lane Group [s/veh]	115.98	6.85	20.22	102.93		103.98	102.62
Lane Group LOS	F	A	C	F		F	F
Critical Lane Group	Yes	No	No	Yes		Yes	No
50th-Percentile Queue Length [veh/ln]	15.59	4.47	7.22	28.37		15.19	13.42
50th-Percentile Queue Length [ft/ln]	389.81	111.83	180.57	709.24		379.69	335.45
95th-Percentile Queue Length [veh/ln]	23.72	7.94	11.63	40.62		22.94	20.57
95th-Percentile Queue Length [ft/ln]	593.11	198.54	290.75	1015.59		573.41	514.16

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	115.98	6.85	0.00	0.00	20.22	102.93	0.00	0.00	0.00	103.98	103.98	102.62
Movement LOS	F	A			C	F				F	F	F
d_A, Approach Delay [s/veh]	34.02				49.79		0.00		103.34			
Approach LOS	C				D		A		F			
d_I, Intersection Delay [s/veh]	53.40											
Intersection LOS	D											
Intersection V/C	0.978											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		33.99		33.99	
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.433		2.417	
Crosswalk LOS	F		F		B		B	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	1388		870		0		423	
d_b, Bicycle Delay [s]	3.99		13.57		42.52		26.42	
I_b,int, Bicycle LOS Score for Intersection	2.948		2.928		4.132		3.106	
Bicycle LOS	C		C		D		C	

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	59.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.934

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1494	385	487	1257	0	608	4	476	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	17	12	0	66	0	0	0	45	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	99	0	0	0	0	0	130	0	0	0
Total Hourly Volume [veh/h]	0	1511	298	487	1323	0	608	4	391	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	398	78	128	348	0	160	1	103	0	0	0
Total Analysis Volume [veh/h]	0	1591	314	513	1393	0	640	4	412	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	28	56	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	85	85	85	85	85	85	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	24	24	24	52	25	25	
g / C, Green / Cycle	0.28	0.28	0.28	0.61	0.29	0.29	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.19	0.30	0.39	0.30	0.33	
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1658	
c, Capacity [veh/h]	1462	456	484	2214	504	488	
d1, Uniform Delay [s]	30.54	27.21	30.54	10.43	30.05	30.05	
k, delay calibration	0.50	0.50	0.34	0.50	0.34	0.40	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	51.45	8.23	50.58	1.37	37.94	71.00	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.09	0.69	1.06	0.63	1.02	1.11	
d, Delay for Lane Group [s/veh]	82.00	35.44	81.12	11.79	67.98	101.05	
Lane Group LOS	F	D	F	B	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	16.52	6.53	16.30	7.54	15.17	19.15	
50th-Percentile Queue Length [ft/ln]	413.04	163.20	407.50	188.57	379.18	478.81	
95th-Percentile Queue Length [veh/ln]	24.38	10.72	23.73	12.05	21.81	28.06	
95th-Percentile Queue Length [ft/ln]	609.46	267.96	593.36	301.17	545.20	701.51	

**Movement, Approach, & Intersection Results**

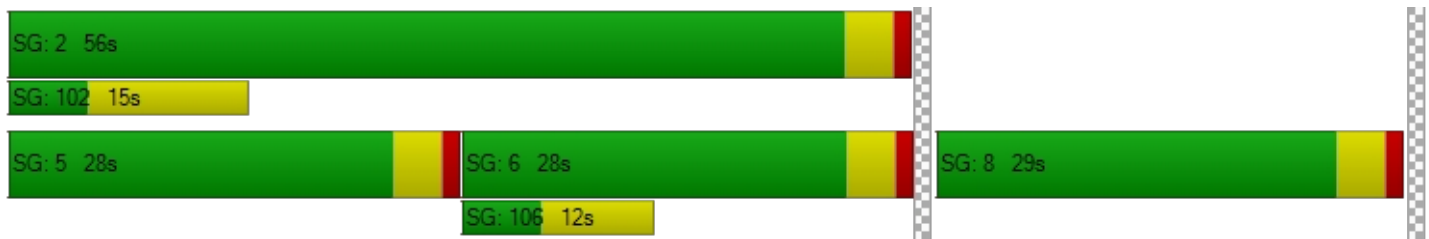
d_M, Delay for Movement [s/veh]	0.00	82.00	35.44	81.12	11.79	0.00	74.03	101.05	101.05	0.00	0.00	0.00
Movement LOS		F	D	F	B		E	F	F			
d_A, Approach Delay [s/veh]	74.32			30.45			84.96			0.00		
Approach LOS	E			C			F			A		
d_I, Intersection Delay [s/veh]	59.45											
Intersection LOS	E											
Intersection V/C	0.934											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			34.01			34.01		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.509			2.167		
Crosswalk LOS	F			F			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	564			1223			588			0		
d_b, Bicycle Delay [s]	21.92			6.43			21.21			42.53		
I_b,int, Bicycle LOS Score for Intersection	2.662			3.132			3.517			4.132		
Bicycle LOS	B			C			D			D		

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	5	1489	4	80	1476	190	103	0	35	0	0	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	111	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	48	0	0	9	0	0	26
Total Hourly Volume [veh/h]	5	1518	3	80	1587	142	103	0	26	0	0	77
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	399	1	21	418	37	27	0	7	0	0	20
Total Analysis Volume [veh/h]	5	1598	3	84	1671	149	108	0	27	0	0	81
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	16	0	12	19	0	0	47	0	0	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	51	51	59	54	54	8	8	8
g / C, Green / Cycle	0.79	0.68	0.68	0.79	0.73	0.73	0.11	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.01	0.42	0.42	0.18	0.46	0.09	0.08	0.02	0.05
s, saturation flow rate [veh/h]	364	1900	1899	470	3618	1615	1338	1615	1615
c, Capacity [veh/h]	351	1286	1285	430	2623	1171	145	173	221
d1, Uniform Delay [s]	4.19	6.78	6.78	4.99	5.27	3.13	32.72	30.46	31.53
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	2.28	2.28	1.01	1.20	0.22	7.25	0.42	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	0.62	0.62	0.20	0.64	0.13	0.74	0.16	0.37
d, Delay for Lane Group [s/veh]	4.20	9.06	9.07	6.00	6.47	3.35	39.97	30.88	32.55
Lane Group LOS	A	A	A	A	A	A	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.01	6.12	6.12	0.26	4.82	0.54	2.15	0.45	1.40
50th-Percentile Queue Length [ft/ln]	0.23	153.03	153.02	6.47	120.56	13.42	53.76	11.31	35.12
95th-Percentile Queue Length [veh/ln]	0.02	10.18	10.18	0.47	8.42	0.97	3.87	0.81	2.53
95th-Percentile Queue Length [ft/ln]	0.42	254.46	254.45	11.65	210.60	24.15	96.77	20.35	63.22

**Movement, Approach, & Intersection Results**

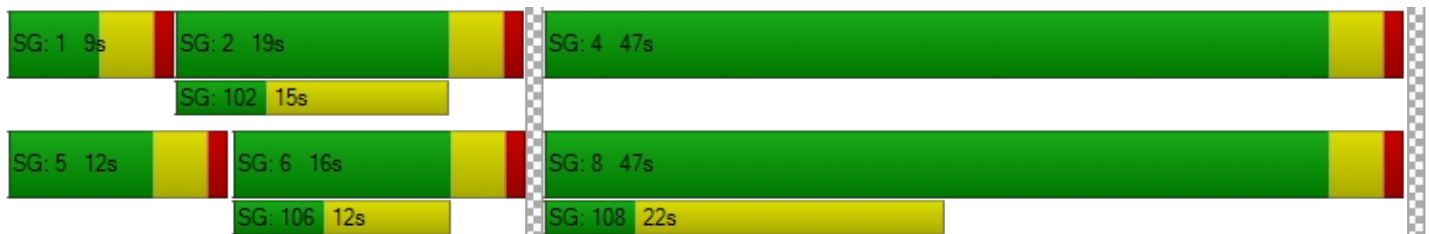
d_M, Delay for Movement [s/veh]	4.20	9.06	9.07	6.00	6.47	3.35	39.97	30.88	30.88	32.55	32.55	32.55
Movement LOS	A	A	A	A	A	A	D	C	C	C	C	C
d_A, Approach Delay [s/veh]	9.05			6.20			38.15			32.55		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	9.16											
Intersection LOS	A											
Intersection V/C	0.543											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.07	0.00	29.07	29.07
I_p,int, Pedestrian LOS Score for Intersection	2.940	0.000	2.063	1.924
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	320	400	1146	1146
d_b, Bicycle Delay [s]	26.49	24.03	6.84	6.84
I_b,int, Bicycle LOS Score for Intersection	2.885	3.170	1.797	1.736
Bicycle LOS	C	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	38.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	99	956	12	314	988	174	205	75	54	10	117	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	111	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	44	0	0	14	0	0	68
Total Hourly Volume [veh/h]	99	985	9	314	1099	130	205	75	40	10	117	202
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	259	2	83	289	34	54	20	11	3	31	53
Total Analysis Volume [veh/h]	104	1037	9	331	1157	137	216	79	42	11	123	213
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	27	45	0	18	36	0	12	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	37	37	22	51	51	14	29	29	1	16	16
g / C, Green / Cycle	0.08	0.35	0.35	0.21	0.48	0.48	0.13	0.27	0.27	0.01	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.06	0.28	0.28	0.19	0.34	0.35	0.13	0.02	0.03	0.01	0.06	0.13
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1831	1714	3618	1615	1714	1900	1615
c, Capacity [veh/h]	130	664	662	360	919	886	229	991	442	24	293	249
d1, Uniform Delay [s]	47.78	30.69	30.69	40.65	21.35	21.54	45.12	28.33	28.45	51.41	40.20	43.30
k, delay calibration	0.11	0.50	0.50	0.21	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.65	9.20	9.23	16.66	4.65	5.09	16.75	0.03	0.09	12.52	0.96	8.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.79	0.79	0.92	0.71	0.72	0.94	0.08	0.09	0.45	0.42	0.85
d, Delay for Lane Group [s/veh]	58.43	39.88	39.91	57.31	26.00	26.63	61.88	28.37	28.55	63.93	41.15	51.48
Lane Group LOS	E	D	D	E	C	C	E	C	C	E	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.05	13.32	13.29	9.94	13.30	13.22	6.60	0.74	0.80	0.37	2.95	5.92
50th-Percentile Queue Length [ft/ln]	76.32	332.98	332.14	248.60	332.48	330.55	165.09	18.60	20.02	9.29	73.64	147.89
95th-Percentile Queue Length [veh/ln]	5.50	19.30	19.26	15.12	19.28	19.19	10.82	1.34	1.44	0.67	5.30	9.90
95th-Percentile Queue Length [ft/ln]	137.38	482.61	481.59	377.88	482.00	479.63	270.45	33.48	36.03	16.71	132.55	247.61

**Movement, Approach, & Intersection Results**

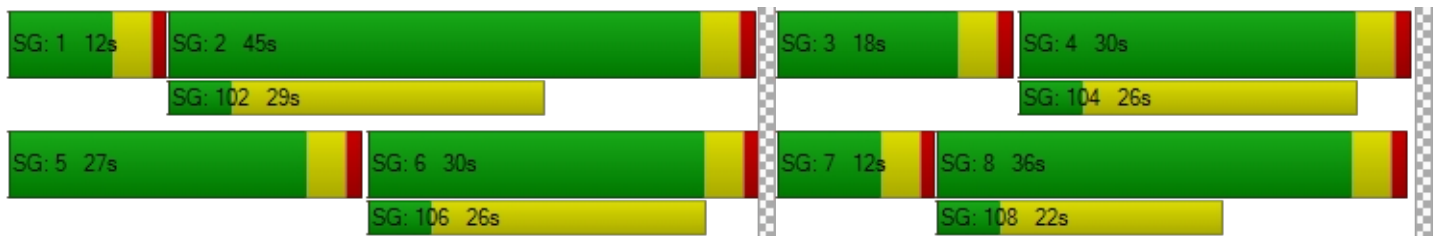
d_M, Delay for Movement [s/veh]	58.43	39.90	39.91	57.31	26.27	26.63	61.88	28.37	28.55	63.93	41.15	51.48
Movement LOS	E	D	D	E	C	C	E	C	C	E	D	D
d_A, Approach Delay [s/veh]	41.58			32.62			49.87			48.21		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	38.84											
Intersection LOS	D											
Intersection V/C	0.727											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	43.92	43.92	43.92	43.92
I_p,int, Pedestrian LOS Score for Intersection	2.777	3.045	2.729	2.695
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	495	781	609	495
d_b, Bicycle Delay [s]	29.75	19.53	25.40	29.75
I_b,int, Bicycle LOS Score for Intersection	2.511	2.937	1.849	1.902
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.496

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	69	780	25	62	875	53	121	63	91	10	65	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	0	0	84	28	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	6	0	0	20	0	0	23	0	0	10
Total Hourly Volume [veh/h]	69	802	19	62	959	61	128	63	68	10	65	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	211	5	16	252	16	34	17	18	3	17	7
Total Analysis Volume [veh/h]	73	844	20	65	1009	64	135	66	72	11	68	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	33	33	3	33	33	12	12
g / C, Green / Cycle	0.06	0.55	0.55	0.06	0.54	0.54	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.04	0.29	0.29	0.17	0.06
s, saturation flow rate [veh/h]	1714	1900	1885	1714	1900	1860	1629	1831
c, Capacity [veh/h]	102	1039	1031	96	1033	1011	410	427
d1, Uniform Delay [s]	27.74	7.99	7.99	27.81	8.76	8.76	22.97	20.60
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.82	1.23	1.24	7.92	1.91	1.95	1.86	0.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.71	0.42	0.42	0.67	0.52	0.53	0.67	0.25
d, Delay for Lane Group [s/veh]	36.56	9.22	9.23	35.73	10.67	10.71	24.83	20.91
Lane Group LOS	D	A	A	D	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.23	2.98	2.96	1.08	4.13	4.06	3.63	1.19
50th-Percentile Queue Length [ft/ln]	30.69	74.41	73.88	27.03	103.15	101.38	90.66	29.79
95th-Percentile Queue Length [veh/ln]	2.21	5.36	5.32	1.95	7.43	7.30	6.53	2.14
95th-Percentile Queue Length [ft/ln]	55.23	133.93	132.98	48.66	185.68	182.48	163.20	53.62

**Movement, Approach, & Intersection Results**

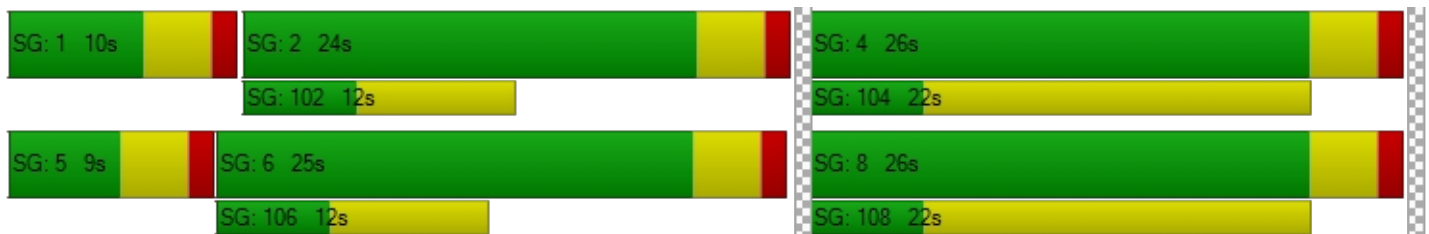
d_M, Delay for Movement [s/veh]	36.56	9.23	9.23	35.73	10.69	10.71	24.83	24.83	24.83	20.91	20.91	20.91
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.36			12.12			24.83			20.91		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.63											
Intersection LOS	B											
Intersection V/C	0.496											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.706			2.925			1.982			1.889		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	700			666			733			733		
d_b, Bicycle Delay [s]	12.69			13.35			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.338			2.515			2.048			1.754		
Bicycle LOS	B			B			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	93.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.923

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	34	759	107	92	1069	23	59	68	116	80	44	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	62	0	0	0	0	84	22	2	15	0	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	27	0	0	27	0	0	33	0	0	12
Total Hourly Volume [veh/h]	96	759	80	92	1069	80	81	70	98	80	53	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	200	21	24	281	21	21	18	26	21	14	10
Total Analysis Volume [veh/h]	101	799	84	97	1125	84	85	74	103	84	56	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	32	0	0	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	16	16	4	16	16	28	28	28	28
g / C, Green / Cycle	0.07	0.26	0.26	0.07	0.26	0.26	0.47	0.47	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.06	0.24	0.24	0.06	0.32	0.32	1.34	0.06	1.54	0.02
s, saturation flow rate [veh/h]	1714	1900	1837	1714	1900	1854	119	1615	91	1615
c, Capacity [veh/h]	127	501	485	122	495	483	147	751	138	751
d1, Uniform Delay [s]	27.32	21.29	21.29	27.42	22.18	22.18	19.88	9.18	21.68	8.80
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.49	21.25	21.80	10.90	121.55	123.34	97.17	0.08	79.98	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.79	0.90	0.90	0.79	1.23	1.24	1.08	0.14	1.01	0.05
d, Delay for Lane Group [s/veh]	37.80	42.54	43.09	38.33	143.73	145.52	117.05	9.26	101.66	8.83
Lane Group LOS	D	D	D	D	F	F	F	A	F	A
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.72	8.48	8.28	1.67	23.06	22.75	6.00	0.68	4.98	0.25
50th-Percentile Queue Length [ft/ln]	42.94	212.10	206.95	41.63	576.60	568.66	150.07	16.99	124.40	6.16
95th-Percentile Queue Length [veh/ln]	3.09	13.26	13.00	3.00	34.66	34.28	10.49	1.22	8.70	0.44
95th-Percentile Queue Length [ft/ln]	77.28	331.52	324.91	74.94	866.60	857.09	262.17	30.57	217.51	11.09

**Movement, Approach, & Intersection Results**

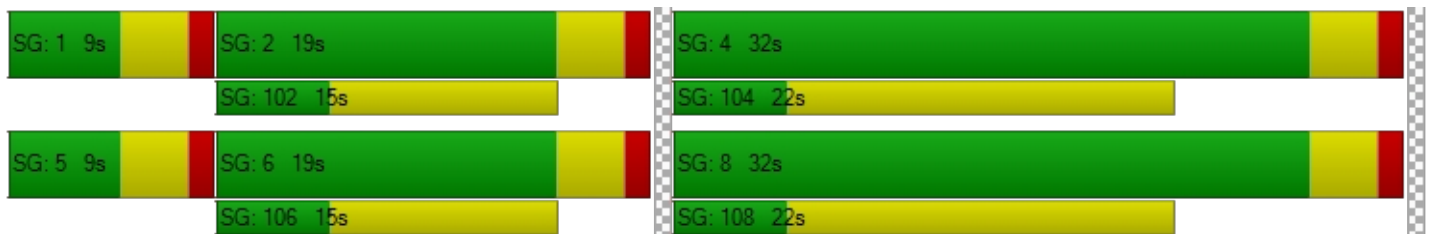
d_M, Delay for Movement [s/veh]	37.80	42.78	43.09	38.33	144.55	145.52	117.05	117.05	9.26	101.66	101.66	8.83
Movement LOS	D	D	D	D	F	F	F	F	A	F	F	A
d_A, Approach Delay [s/veh]	42.30			136.72			74.67			81.44		
Approach LOS	D			F			E			F		
d_I, Intersection Delay [s/veh]	93.12											
Intersection LOS	F											
Intersection V/C	1.923											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
I_p,int, Pedestrian LOS Score for Intersection	2.898	2.882	2.151	2.092
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	500	933	933
d_b, Bicycle Delay [s]	16.88	16.88	8.53	8.53
I_b,int, Bicycle LOS Score for Intersection	2.394	2.659	2.046	1.875
Bicycle LOS	B	B	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	28	769	1	19	1167	28	109	30	35	24	19	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	62	0	0	15	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	7	0	0	9	0	0	5
Total Hourly Volume [veh/h]	28	831	1	19	1182	21	109	30	26	24	19	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	219	0	5	311	6	29	8	7	6	5	4
Total Analysis Volume [veh/h]	29	875	1	20	1244	22	115	32	27	25	20	16
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	39	39	1	38	38	8	8
g / C, Green / Cycle	0.03	0.65	0.65	0.02	0.64	0.64	0.13	0.13
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.01	0.33	0.33	0.11	0.03
s, saturation flow rate [veh/h]	1714	1900	1899	1714	1900	1888	1650	1772
c, Capacity [veh/h]	57	1223	1223	42	1207	1200	317	318
d1, Uniform Delay [s]	28.57	4.96	4.96	28.91	6.00	6.00	25.08	23.43
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.96	0.82	0.82	7.93	1.64	1.65	1.48	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.36	0.36	0.47	0.53	0.53	0.55	0.19
d, Delay for Lane Group [s/veh]	35.53	5.78	5.78	36.84	7.64	7.65	26.56	23.72
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.50	2.00	2.00	0.36	3.57	3.56	2.37	0.76
50th-Percentile Queue Length [ft/ln]	12.51	50.08	50.06	9.11	89.25	88.88	59.34	18.97
95th-Percentile Queue Length [veh/ln]	0.90	3.61	3.60	0.66	6.43	6.40	4.27	1.37
95th-Percentile Queue Length [ft/ln]	22.52	90.14	90.10	16.39	160.65	159.98	106.81	34.15



**Movement, Approach, & Intersection Results**

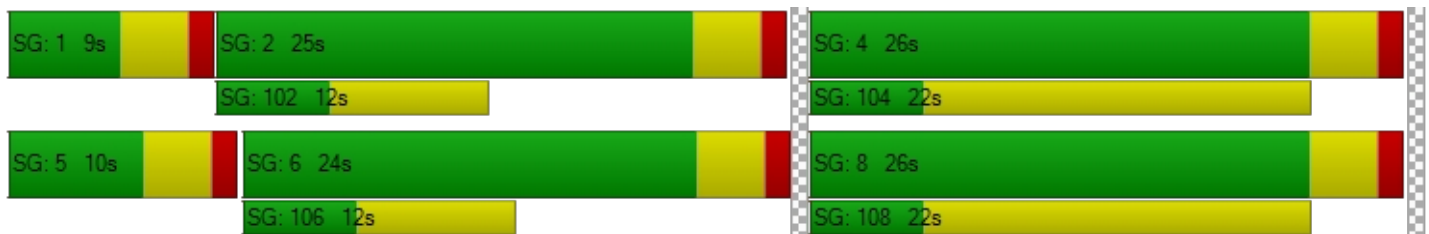
d_M, Delay for Movement [s/veh]	35.53	5.78	5.78	36.84	7.65	7.65	26.56	26.56	26.56	23.72	23.72	23.72
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	6.73			8.10			26.56			23.72		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	9.31											
Intersection LOS	A											
Intersection V/C	0.457											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	21.70			21.70			21.70			21.70		
I_p,int, Pedestrian LOS Score for Intersection	2.747			2.903			1.836			1.761		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	666			700			733			733		
d_b, Bicycle Delay [s]	13.35			12.69			12.05			12.05		
I_b,int, Bicycle LOS Score for Intersection	2.306			2.626			1.862			1.669		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	172	713	13	27	1316	100	34	18	97	71	49	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	0	0	13	2	9	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	26	0	0	24	0	0	4
Total Hourly Volume [veh/h]	172	765	10	27	1329	76	43	18	73	71	49	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	201	3	7	350	20	11	5	19	19	13	3
Total Analysis Volume [veh/h]	181	805	11	28	1399	80	45	19	77	75	52	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	21	0	9	18	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	39	39	2	34	34	7	7
g / C, Green / Cycle	0.13	0.66	0.66	0.03	0.56	0.56	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.11	0.22	0.22	0.02	0.39	0.39	0.08	0.09
s, saturation flow rate [veh/h]	1714	1900	1891	1714	1900	1864	1752	1550
c, Capacity [veh/h]	225	1249	1243	57	1062	1042	272	263
d1, Uniform Delay [s]	25.38	4.50	4.50	28.58	9.61	9.65	25.91	26.12
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.59	0.70	0.70	6.40	3.86	4.00	1.53	1.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.80	0.33	0.33	0.49	0.70	0.70	0.52	0.53
d, Delay for Lane Group [s/veh]	31.97	5.20	5.21	34.98	13.47	13.65	27.44	27.77
Lane Group LOS	C	A	A	C	B	B	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	2.77	1.72	1.72	0.48	6.62	6.59	1.95	1.94
50th-Percentile Queue Length [ft/ln]	69.14	43.11	42.94	11.97	165.61	164.80	48.69	48.58
95th-Percentile Queue Length [veh/ln]	4.98	3.10	3.09	0.86	10.85	10.80	3.51	3.50
95th-Percentile Queue Length [ft/ln]	124.45	77.61	77.29	21.55	271.13	270.06	87.64	87.45

**Movement, Approach, & Intersection Results**

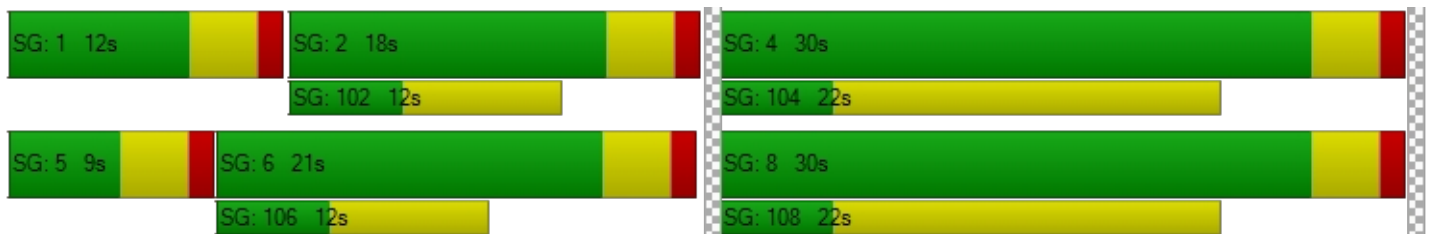
d_M, Delay for Movement [s/veh]	31.97	5.21	5.21	34.98	13.55	13.65	27.44	27.44	27.44	27.77	27.77	27.77
Movement LOS	C	A	A	C	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	10.06			13.95			27.44			27.77		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.93											
Intersection LOS	B											
Intersection V/C	0.589											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
I_p,int, Pedestrian LOS Score for Intersection	2.894	2.849	1.975	1.801
Crosswalk LOS	C	C	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	566	466	865	865
d_b, Bicycle Delay [s]	15.45	17.67	9.67	9.67
I_b,int, Bicycle LOS Score for Intersection	2.385	2.824	1.832	1.796
Bicycle LOS	B	C	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	25.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.766

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	4	640	171	295	1162	6	8	0	10	342	1	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	0	0	13	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	43	0	0	2	0	0	3	0	0	22
Total Hourly Volume [veh/h]	4	692	128	295	1175	4	8	0	7	342	1	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	182	34	78	309	1	2	0	2	90	0	17
Total Analysis Volume [veh/h]	4	728	135	311	1237	4	8	0	7	360	1	69
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	26	0	18	32	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	0	22	22	14	36	36	22	22	22
g / C, Green / Cycle	0.01	0.31	0.31	0.20	0.51	0.51	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.00	0.23	0.23	0.18	0.33	0.33	0.10	0.35	0.04
s, saturation flow rate [veh/h]	1714	1900	1798	1714	1900	1898	143	1027	1615
c, Capacity [veh/h]	12	597	565	344	965	964	124	425	507
d1, Uniform Delay [s]	34.65	21.50	21.50	27.38	12.61	12.61	19.57	25.25	17.24
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.32	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.16	8.10	8.55	8.89	3.30	3.30	0.43	12.85	0.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.33	0.74	0.74	0.90	0.64	0.64	0.12	0.85	0.14
d, Delay for Lane Group [s/veh]	49.81	29.60	30.05	36.27	15.91	15.92	20.01	38.11	17.36
Lane Group LOS	D	C	C	D	B	B	C	D	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.12	7.39	7.07	5.67	7.04	7.04	0.17	7.35	0.77
50th-Percentile Queue Length [ft/ln]	2.92	184.80	176.75	141.66	176.12	176.06	4.33	183.75	19.28
95th-Percentile Queue Length [veh/ln]	0.21	11.85	11.43	9.57	11.40	11.39	0.31	11.80	1.39
95th-Percentile Queue Length [ft/ln]	5.26	296.27	285.77	239.26	284.94	284.86	7.80	294.91	34.71

**Movement, Approach, & Intersection Results**

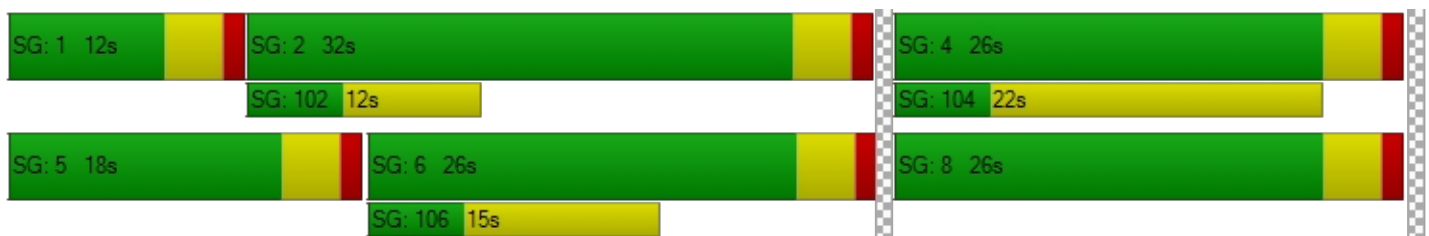
d_M, Delay for Movement [s/veh]	49.81	29.78	30.05	36.27	15.91	15.92	20.01	20.01	20.01	38.11	38.11	17.36
Movement LOS	D	C	C	D	B	B	C	C	C	D	D	B
d_A, Approach Delay [s/veh]	29.91			19.99			20.01			34.78		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	25.21											
Intersection LOS	C											
Intersection V/C	0.766											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.61	26.61	26.61
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.767	1.722	2.266
Crosswalk LOS	F	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	799	628	628
d_b, Bicycle Delay [s]	16.49	12.63	16.49	16.49
I_b,int, Bicycle LOS Score for Intersection	2.310	2.842	1.589	2.305
Bicycle LOS	B	C	A	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	54.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.847

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	66	355	417	560	782	43	34	70	49	315	117	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	14	0	10	4	0	0	0	0	0	0	38
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	104	0	0	11	0	0	12	0	0	130
Total Hourly Volume [veh/h]	66	369	313	570	786	32	34	70	37	315	117	389
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	97	82	150	207	8	9	18	10	83	31	102
Total Analysis Volume [veh/h]	69	388	329	600	827	34	36	74	39	332	123	409
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	33	24	0	34	25	0	0	10	0	0	27	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	20	20	30	45	45	6	6	23
g / C, Green / Cycle	0.05	0.21	0.21	0.32	0.48	0.48	0.06	0.06	0.24
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.20	0.33	0.23	0.02	0.02	0.06	0.25
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1791	1833
c, Capacity [veh/h]	92	766	342	571	1724	770	113	112	444
d1, Uniform Delay [s]	44.53	33.08	37.09	32.54	16.89	13.31	42.65	44.58	36.03
k, delay calibration	0.11	0.50	0.50	0.49	0.50	0.50	0.11	0.11	0.29
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.50	2.38	39.87	51.29	0.96	0.11	1.61	42.73	39.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.51	0.96	1.05	0.48	0.04	0.32	1.01	1.03
d, Delay for Lane Group [s/veh]	56.03	35.46	76.96	83.83	17.85	13.42	44.26	87.30	75.45
Lane Group LOS	E	D	E	F	B	B	D	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.89	4.15	11.20	20.80	6.09	0.40	0.85	3.93	14.88
50th-Percentile Queue Length [ft/ln]	47.13	103.80	280.02	519.97	152.34	10.08	21.33	98.17	372.06
95th-Percentile Queue Length [veh/ln]	3.39	7.47	16.69	29.21	10.14	0.73	1.54	7.07	21.52
95th-Percentile Queue Length [ft/ln]	84.83	186.84	417.24	730.19	253.55	18.14	38.40	176.71	538.05

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.03	35.46	76.96	83.83	17.85	13.42	44.26	87.30	87.30	75.45	75.45	0.00
Movement LOS	E	D	E	F	B	B	D	F	F	E	E	
d_A, Approach Delay [s/veh]	54.64			44.84			76.90			75.45		
Approach LOS	D			D			E			E		
d_I, Intersection Delay [s/veh]	54.10											
Intersection LOS	D											
Intersection V/C	0.847											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	421			442			126			484		
d_b, Bicycle Delay [s]	29.62			28.84			41.71			27.30		
I_b,int, Bicycle LOS Score for Intersection	2.294			2.774			1.825			2.310		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	26.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	9	5	6	280	22	383	416	573	21	5	551	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	10	0	0	38	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	96	0	0	5	0	0	55
Total Hourly Volume [veh/h]	9	5	4	280	22	287	416	583	16	5	589	166
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	1	74	6	76	109	153	4	1	155	44
Total Analysis Volume [veh/h]	9	5	4	295	23	302	438	614	17	5	620	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	26	35	0	10	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	28	20	34	34	1	15	15
g / C, Green / Cycle	0.37	0.37	0.37	0.27	0.46	0.46	0.01	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.05	0.30	0.19	0.24	0.17	0.01	0.00	0.17	0.11
s, saturation flow rate [veh/h]	377	1056	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	213	486	602	482	1661	741	15	726	324
d1, Uniform Delay [s]	18.05	21.70	18.16	26.66	13.24	11.11	37.04	28.95	26.90
k, delay calibration	0.50	0.50	0.50	0.16	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.78	6.72	2.97	9.68	0.14	0.01	12.84	2.99	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.08	0.65	0.50	0.91	0.37	0.02	0.34	0.85	0.54
d, Delay for Lane Group [s/veh]	18.84	28.42	21.12	36.34	13.37	11.12	49.89	31.94	28.30
Lane Group LOS	B	C	C	D	B	B	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.23	5.67	4.28	8.47	3.13	0.15	0.14	5.45	2.83
50th-Percentile Queue Length [ft/ln]	5.78	141.72	107.00	211.81	78.26	3.66	3.55	136.35	70.72
95th-Percentile Queue Length [veh/ln]	0.42	9.57	7.67	13.25	5.63	0.26	0.26	9.28	5.09
95th-Percentile Queue Length [ft/ln]	10.41	239.33	191.82	331.14	140.87	6.59	6.39	232.10	127.30

**Movement, Approach, & Intersection Results**

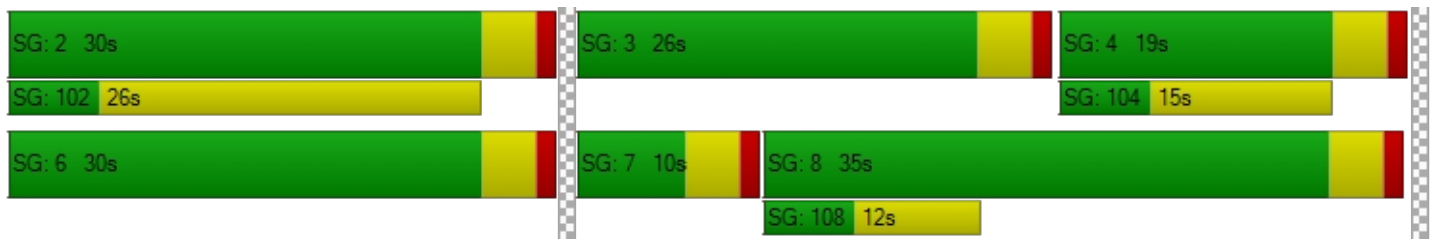
d_M, Delay for Movement [s/veh]	18.84	18.84	18.84	28.42	28.42	21.12	36.34	13.37	11.12	49.89	31.94	28.30
Movement LOS	B	B	B	C	C	C	D	B	B	D	C	C
d_A, Approach Delay [s/veh]	18.84			24.87			22.75			31.25		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	25.96											
Intersection LOS	C											
Intersection V/C	0.715											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.07	29.07	29.07	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.744	2.521	2.807	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	693	693	826	400
d_b, Bicycle Delay [s]	16.03	16.03	12.93	24.03
I_b,int, Bicycle LOS Score for Intersection	1.593	2.741	2.446	2.265
Bicycle LOS	A	B	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	18.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.573

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	58	773	203	38	786	0	4	31	82	101	17	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	38	0	0	10	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	51	0	0	0	0	0	21	0	0	6
Total Hourly Volume [veh/h]	58	811	152	38	796	0	4	31	61	101	17	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	213	40	10	209	0	1	8	16	27	4	4
Total Analysis Volume [veh/h]	61	854	160	40	838	0	4	33	64	106	18	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	22	0	9	19	0	0	23	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	50	50	3	49	49	5	5	7	7
g / C, Green / Cycle	0.05	0.62	0.62	0.04	0.61	0.61	0.06	0.06	0.08	0.08
(v / s)_i Volume / Saturation Flow Rate	0.03	0.45	0.10	0.02	0.44	0.00	0.02	0.04	0.06	0.02
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	1810	1750
c, Capacity [veh/h]	87	1174	998	70	1156	983	115	99	150	145
d1, Uniform Delay [s]	37.62	10.63	6.50	37.92	11.00	0.00	36.06	36.82	35.82	34.41
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.88	3.96	0.34	7.29	3.97	0.00	1.58	6.97	5.93	0.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.70	0.73	0.16	0.58	0.72	0.00	0.32	0.65	0.71	0.24
d, Delay for Lane Group [s/veh]	47.51	14.60	6.84	45.21	14.98	0.00	37.64	43.79	41.75	35.26
Lane Group LOS	D	B	A	D	B	A	D	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.39	9.93	1.08	0.90	9.95	0.00	0.73	1.39	2.22	0.66
50th-Percentile Queue Length [ft/ln]	34.86	248.37	27.12	22.47	248.69	0.00	18.27	34.81	55.55	16.51
95th-Percentile Queue Length [veh/ln]	2.51	15.10	1.95	1.62	15.12	0.00	1.32	2.51	4.00	1.19
95th-Percentile Queue Length [ft/ln]	62.75	377.59	48.82	40.45	378.00	0.00	32.89	62.65	100.00	29.72

**Movement, Approach, & Intersection Results**

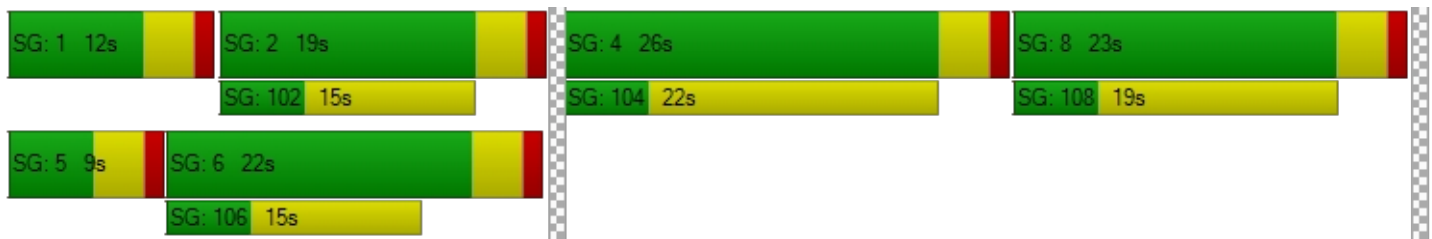
d_M, Delay for Movement [s/veh]	47.51	14.60	6.84	45.21	14.98	0.00	37.64	37.64	43.79	41.75	35.26	35.26
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.31			16.35			41.54			40.14		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	18.53											
Intersection LOS	B											
Intersection V/C	0.573											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	31.56			31.56			31.56			31.56		
I_p,int, Pedestrian LOS Score for Intersection	2.725			2.639			2.031			2.085		
Crosswalk LOS	B			B			B			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	449			374			474			549		
d_b, Bicycle Delay [s]	24.08			26.46			23.31			21.08		
I_b,int, Bicycle LOS Score for Intersection	3.418			3.008			1.761			1.802		
Bicycle LOS	C			C			A			A		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	30	1011	197	42	904	0	0	0	9	215	5	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	38	0	0	10	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	49	0	0	0	0	0	2	0	0	11
Total Hourly Volume [veh/h]	30	1049	148	42	914	0	0	0	7	215	5	32
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	276	39	11	241	0	0	0	2	57	1	8
Total Analysis Volume [veh/h]	32	1104	156	44	962	0	0	0	7	226	5	34
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	25	9	22	0	0	10	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	44	44	3	44	44	1	1	7	7	7
g / C, Green / Cycle	0.03	0.62	0.62	0.04	0.63	0.63	0.01	0.01	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.31	0.10	0.02	0.25	0.25	0.00	0.00	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1813	1615
c, Capacity [veh/h]	64	2241	1000	78	1192	1192	21	18	179	179	160
d1, Uniform Delay [s]	33.30	7.32	5.63	32.97	6.53	6.53	0.00	34.52	30.47	30.47	29.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.06	0.78	0.33	6.27	1.02	1.02	0.00	13.97	3.86	3.85	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.50	0.49	0.16	0.56	0.40	0.40	0.00	0.40	0.65	0.64	0.21
d, Delay for Lane Group [s/veh]	39.35	8.10	5.96	39.25	7.55	7.55	0.00	48.49	34.33	34.31	29.80
Lane Group LOS	D	A	A	D	A	A	A	D	C	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.63	3.80	0.87	0.85	3.12	3.12	0.00	0.18	2.00	2.00	0.54
50th-Percentile Queue Length [ft/ln]	15.64	95.11	21.67	21.18	78.12	78.12	0.00	4.59	50.05	50.12	13.48
95th-Percentile Queue Length [veh/ln]	1.13	6.85	1.56	1.53	5.62	5.62	0.00	0.33	3.60	3.61	0.97
95th-Percentile Queue Length [ft/ln]	28.16	171.20	39.00	38.13	140.62	140.62	0.00	8.25	90.10	90.22	24.27

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	39.35	8.10	5.96	39.25	7.55	7.55	0.00	0.00	48.49	34.32	34.31	29.80
Movement LOS	D	A	A	D	A	A	A	A	D	C	C	C
d_A, Approach Delay [s/veh]	8.61			8.93			48.49			33.74		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]	11.44											
Intersection LOS	B											
Intersection V/C	0.398											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			26.64			0.00			26.64		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.709			0.000			2.264		
Crosswalk LOS	F			B			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	599			513			171			627		
d_b, Bicycle Delay [s]	17.21			19.37			29.32			16.52		
I_b,int, Bicycle LOS Score for Intersection	2.666			2.390			1.574			2.015		
Bicycle LOS	B			B			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	158	278	0	0	1003	144	0	0	0	116	0	979
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	10	0	0	0	0	0	0	38
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	36	0	0	0	0	0	254
Total Hourly Volume [veh/h]	158	278	0	0	1013	108	0	0	0	116	0	763
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	73	0	0	267	28	0	0	0	31	0	201
Total Analysis Volume [veh/h]	166	293	0	0	1066	114	0	0	0	122	0	803
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	11	20	0	0	9	0	0	0	0	40	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	60	60	60		60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	7	47	36		5
g / C, Green / Cycle	0.12	0.78	0.59		0.09
(v / s)_i Volume / Saturation Flow Rate	0.09	0.08	0.29		0.07
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	211	2804	2141		166
d1, Uniform Delay [s]	25.83	1.66	7.11		26.60
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	6.32	0.07	0.83		6.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.79	0.10	0.50		0.73
d, Delay for Lane Group [s/veh]	32.15	1.73	7.94		32.71
Lane Group LOS	C	A	A		C
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	2.54	0.17	3.20		1.89
50th-Percentile Queue Length [ft/ln]	63.51	4.14	79.90		47.25
95th-Percentile Queue Length [veh/ln]	4.57	0.30	5.75		3.40
95th-Percentile Queue Length [ft/ln]	114.32	7.45	143.81		85.05

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	32.15	1.73	0.00	0.00	7.94	0.00	0.00	0.00	0.00	0.00	32.71	0.00	0.00
Movement LOS	C	A			A						C		
d_A, Approach Delay [s/veh]	12.73			7.94			0.00			32.71			
Approach LOS	B			A			A			C			
d_I, Intersection Delay [s/veh]	11.11												
Intersection LOS	B												
Intersection V/C	0.454												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.961		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	533			166			0			1198		
d_b, Bicycle Delay [s]	16.17			25.25			30.04			4.83		
I_b,int, Bicycle LOS Score for Intersection	1.938			2.439			4.132			1.560		
Bicycle LOS	A			B			D			A		

**Sequence**




Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	23.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.674

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	301	176	664	417	0	179	0	705	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	10	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	44	0	0	0	0	0	176	0	0	0
Total Hourly Volume [veh/h]	0	301	132	674	417	0	179	0	529	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	79	35	177	110	0	47	0	139	0	0	0
Total Analysis Volume [veh/h]	0	317	139	709	439	0	188	0	557	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	31	43	0	17	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	10	25	39	13	13	
g / C, Green / Cycle	0.16	0.42	0.65	0.22	0.22	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.39	0.12	0.10	0.19	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	590	760	2351	393	621	
d1, Uniform Delay [s]	23.09	16.63	4.20	20.57	22.90	
k, delay calibration	0.50	0.29	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	3.48	13.33	0.18	0.90	4.94	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	0.54	0.93	0.19	0.48	0.90	
d, Delay for Lane Group [s/veh]	26.57	29.95	4.37	21.48	27.84	
Lane Group LOS	C	C	A	C	C	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	2.21	10.75	0.80	2.24	3.95	
50th-Percentile Queue Length [ft/ln]	55.21	268.69	19.91	55.89	98.72	
95th-Percentile Queue Length [veh/ln]	3.98	16.12	1.43	4.02	7.11	
95th-Percentile Queue Length [ft/ln]	99.38	403.10	35.84	100.60	177.70	



**Movement, Approach, & Intersection Results**

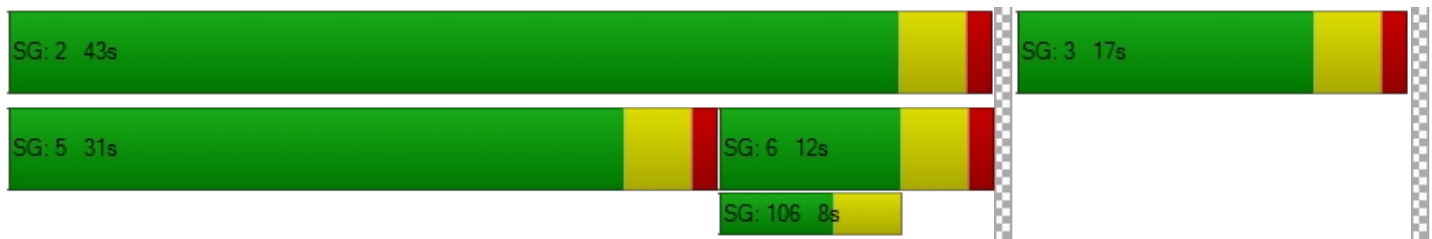
d_M, Delay for Movement [s/veh]	0.00	26.57	0.00	29.95	4.37	0.00	21.48	0.00	27.84	0.00	0.00	0.00
Movement LOS		C		C	A		C		C			
d_A, Approach Delay [s/veh]	26.57			20.17			26.23			0.00		
Approach LOS	C			C			C			A		
d_I, Intersection Delay [s/veh]	23.13											
Intersection LOS	C											
Intersection V/C	0.674											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			21.72		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.095		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			1298			433			0		
d_b, Bicycle Delay [s]	22.57			3.70			18.45			30.04		
I_b,int, Bicycle LOS Score for Intersection	1.821			2.507			1.560			4.132		
Bicycle LOS	A			B			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	14	0	0	13	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	18	32	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	0	18	45	0	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	5	12	0	1
Total Analysis Volume [veh/h]	23	0	19	47	0	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.29	0.00	9.11	8.43
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.91	0.91	0.36	0.36
d_A, Approach Delay [s/veh]	0.00		2.10		8.43	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.92					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type: Two-way stop  
 Analysis Method: HCM 6th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 9.2  
 Level Of Service: A  
 Volume to Capacity (v/c): 0.052

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	14	0	0	13	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	0	32	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	22	0	0	45	0	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	0	0	12	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	23	0	0	47	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.88	9.10	8.40	8.85	9.22	8.52	7.20	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.08	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.97	1.97	1.97	4.13	4.13	4.13	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.10			9.22			2.40			2.40		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.18											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	14	0	0	13	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	4	5	27	0	0	0	0	15	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	21	4	5	40	0	0	0	0	15	0	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	1	1	11	0	0	0	0	4	0	0
Total Analysis Volume [veh/h]	0	22	4	5	42	0	0	0	0	16	0	1
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.26	0.00	0.00	8.94	9.43	8.48	9.00	9.49	8.47
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.00	0.00	1.41	1.41	1.41
d_A, Approach Delay [s/veh]	0.00			0.77			8.95			8.97		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.10											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	454	553	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	11	41	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	465	594	0	0	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	122	156	0	0	1
Total Analysis Volume [veh/h]	9	489	625	0	0	2
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	0.00	0.00	0.00	0.00	12.40
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.71	0.71	0.00	0.00	0.00	0.31
d_A, Approach Delay [s/veh]	0.16		0.00		12.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	454	0	0	553	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	19	9	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	474	0	19	562	0	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	125	0	5	148	0	1
Total Analysis Volume [veh/h]	499	0	20	592	0	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.41	0.00	0.00	11.31
Movement LOS	A	A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.06	0.00	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.42	1.42	0.00	0.66
d_A, Approach Delay [s/veh]	0.00		0.27		11.31	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	4.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.346

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← →			← →			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	454	0	0	553	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	29	30	0	7	4	1	0	5	8	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	1	0	0	1	0	0	0
Total Hourly Volume [veh/h]	20	483	22	0	560	3	1	0	4	8	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	127	6	0	147	1	0	0	1	2	0	0
Total Analysis Volume [veh/h]	21	508	23	0	589	3	1	0	4	8	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	65
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	33	0	9	32	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	52	0	51	1	1
g / C, Green / Cycle	0.03	0.80	0.00	0.78	0.01	0.01
(v / s)_i Volume / Saturation Flow Rate	0.01	0.30	0.00	0.33	0.00	0.00
s, saturation flow rate [veh/h]	1714	1786	1714	1798	1746	1662
c, Capacity [veh/h]	45	1432	3	1398	88	131
d1, Uniform Delay [s]	31.27	1.82	0.00	2.41	31.87	31.93
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.35	0.74	0.00	0.94	0.27	0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.47	0.37	0.00	0.42	0.06	0.06
d, Delay for Lane Group [s/veh]	38.62	2.56	0.00	3.35	32.14	32.12
Lane Group LOS	D	A	A	A	C	C
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.39	0.29	0.00	1.35	0.08	0.13
50th-Percentile Queue Length [ft/ln]	9.77	7.35	0.00	33.64	2.04	3.19
95th-Percentile Queue Length [veh/ln]	0.70	0.53	0.00	2.42	0.15	0.23
95th-Percentile Queue Length [ft/ln]	17.58	13.22	0.00	60.56	3.68	5.74

**Movement, Approach, & Intersection Results**

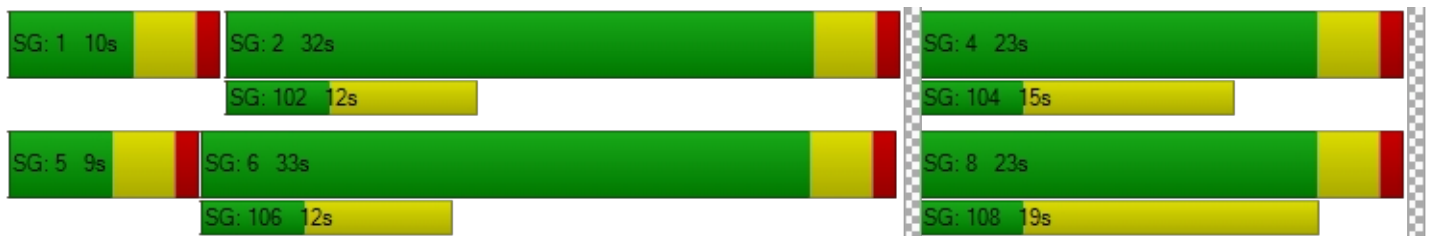
d_M, Delay for Movement [s/veh]	38.62	2.56	2.56	0.00	3.35	3.35	32.14	32.14	32.14	32.12	32.12	32.12
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	3.93			3.35			32.14			32.12		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	3.95											
Intersection LOS	A											
Intersection V/C	0.346											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	24.16			24.16			24.16			24.16		
I_p,int, Pedestrian LOS Score for Intersection	2.514			2.286			1.716			1.719		
Crosswalk LOS	B			B			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	891			861			584			584		
d_b, Bicycle Delay [s]	10.00			10.56			16.31			16.31		
I_b,int, Bicycle LOS Score for Intersection	2.484			2.538			1.570			1.573		
Bicycle LOS	B			B			A			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-








**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	220	108	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	2	9	18	70	9
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	9	238	178	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	2	63	47	2
Total Analysis Volume [veh/h]	2	2	9	251	187	9
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.48	9.24	7.61	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.45	0.45	0.49	0.49	0.00	0.00
d_A, Approach Delay [s/veh]	10.36		0.26		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	59	28	28	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	1	9	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	64	29	37	3	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	8	10	1	0
Total Analysis Volume [veh/h]	0	67	31	39	3	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.33	0.00	0.00	0.00	9.09	8.53
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.26	0.26
d_A, Approach Delay [s/veh]	0.00		0.00		9.09	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	9	0	0	40	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	9	0	5	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	9	0	45	2	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	2	0	12	1	0
Total Analysis Volume [veh/h]	31	9	0	47	2	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.27	0.00	8.90	8.46
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.16	0.16
d_A, Approach Delay [s/veh]	0.00		0.00		8.90	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	9	0	0	40	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	4	0	7	0	0	0	0	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	38	4	0	47	0	0	0	0	1	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	1	0	12	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	40	4	0	49	0	0	0	0	1	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**




V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.29	0.00	0.00	7.28	0.00	0.00	9.01	9.50	8.51	9.01	9.49	8.48
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.08
d_A, Approach Delay [s/veh]	0.00			0.00			9.00			9.01		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.10											
Intersection LOS	A											



**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	187	111	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	0	29	112	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	216	223	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	57	59	3
Total Analysis Volume [veh/h]	3	0	0	227	235	11
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.81	8.98	7.70	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.36	0.36	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.81		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	B					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	63	59	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	0	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	63	59	0	0	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	17	16	0	0	1
Total Analysis Volume [veh/h]	19	66	62	0	0	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	0.00	9.42	8.59
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.93	0.93	0.00	0.00	0.37	0.37
d_A, Approach Delay [s/veh]	1.64		0.00		8.59	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.20					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	63	59	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	18	5	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	81	64	0	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	21	17	0	0	1
Total Analysis Volume [veh/h]	16	85	67	0	0	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.35	0.00	0.00	0.00	9.51	8.61
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.78	0.78	0.00	0.00	0.30	0.30
d_A, Approach Delay [s/veh]	1.16		0.00		8.61	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.88					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 11 2040 AM + P

Report File: C:\...ID 2040 AM + P.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	646	806	489	972	746	1222	1074	617	413	707	7692

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	280	1266	88	550	1018	307	309	271	101	49	348	350	4937

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	1542	23	79	1047	10	63	2764

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	134	1256	64	122	854	65	148	101	75	86	103	149	3157

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	14	3	11	13	0	12	13	483	37	26	235	10	857

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	81	322	61	9	201	7	14	177	288	105	151	25	1441

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	308	48	40	241	39	167	843

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	15	10	39	34	12	42	5	257	24	10	368	10	826

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	44	4	2	239	183	40	512

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	7	38	6	22	18	27	8	195	15	3	200	50	589

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	398	1201	1364	1012	406	5	486	4872

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	1511	397	487	1323	608	4	521	4851

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	5	1518	4	80	1587	190	103	0	35	0	0	103	3625

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	99	985	12	314	1099	174	205	75	54	10	117	270	3414

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	69	802	25	62	959	81	128	63	91	10	65	38	2393



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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	96	759	107	92	1069	107	81	70	131	80	53	49	2694

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	28	831	1	19	1182	28	109	30	35	24	19	20	2326

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	172	765	13	27	1329	102	43	18	97	71	49	15	2701

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	4	692	171	295	1175	6	8	0	10	342	1	88	2792

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	66	369	417	570	786	43	34	70	49	315	117	519	3355

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	9	5	6	280	22	383	416	583	21	5	589	221	2540

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	58	811	203	38	796	0	4	31	82	101	17	22	2163

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	30	1049	197	42	914	0	0	0	9	215	5	43	2504

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	158	278	1013	144	116	1017	2726

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	301	176	674	417	179	705	2452

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	22	0	18	45	0	5	90

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume	
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
27	Laurel Ave/Driveway 2	0	22	0	0	45	0	0	0	0	0	0	0	0	67

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	21	4	5	40	0	0	0	0	15	0	1	86

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	9	465	594	0	2	1070	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	474	0	19	562	5	1060	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	20	483	30	0	560	4	1	0	5	8	0	0	1111

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	2	2	9	238	178	9	438

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	64	29	37	3	0	133

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	29	9	0	45	2	0	85

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	38	4	0	47	0	0	0	0	1	0	0	90





ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	3	0	0	216	223	10	452

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	18	63	59	0	0	5	145

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	15	81	64	0	0	4	164

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Option 1: SP 3rd EB Left

Number	1											
Intersection	Sierra Ave/I-10 Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	633	801	489	972	728	1222	1074	0	571	413	0	707
Total Analysis Volume [veh/h]	686	852	386	1023	800	964	1131	0	514	435	0	558

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	32	0	40	32	0	48	0	0	48	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.22	0.35	0.30	0.43	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.20	0.16	0.29	0.15	0.21	0.12
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	3514	5176	3514	5176	5271	3514
c, Capacity [veh/h]	771	1813	1053	2228	1317	878
X, volume / capacity	0.89	0.47	0.97	0.36	0.86	0.50
d, Delay for Lane Group [s/veh]	49.13	31.16	49.24	23.44	44.68	38.92
Lane Group LOS	D	C	D	C	D	D

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Critical Lane Group	NO	Yes	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	10.06	6.38	15.72	5.10	10.05	5.14
50th-Percentile Queue Length [ft/ln]	251.46	159.39	393.08	127.56	251.33	128.55
95th-Percentile Queue Length [veh/ln]	15.26	10.52	22.23	8.81	15.25	8.86
95th-Percentile Queue Length [ft/ln]	381.49	262.92	555.66	220.17	381.33	221.52

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.13	31.16	0.00	49.24	23.44	0.00	44.68	0.00	0.00	38.92	0.00	0.00
Movement LOS	D	C		D	C		D			D		
Critical Movement	No	No	No	Yes	No	No	No		No	No		No
d_A, Approach Delay [s/veh]	39.17			37.92			44.68			38.92		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	39.95											
Intersection LOS	D											
Intersection V/C	0.670											

Option 1: SP EB Right to EB Thru-Right

Number	2											
Intersection	Sierra Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	280	1249	88	550	954	307	309	271	101	49	348	350
Total Analysis Volume [veh/h]	295	1343	69	579	1122	242	325	285	80	52	366	276

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	28	40	0	24	36	0	16	46	0	10	40	40
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.10	0.47	0.47	0.17	0.54	0.54	0.10	0.19	0.19	0.03	0.13	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.20	0.20	0.16	0.25	0.26	0.09	0.07	0.07	0.01	0.10	0.10
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1840	3514	3618	1734	3514	3618	1699	3514	3618	2859
c, Capacity [veh/h]	367	2444	869	587	1934	927	353	696	327	124	460	936
X, volume / capacity	0.80	0.43	0.43	0.99	0.48	0.48	0.92	0.35	0.36	0.42	0.80	0.30
d, Delay for Lane Group [s/veh]	56.67	21.48	22.47	64.40	18.27	19.27	63.44	42.31	42.78	58.99	54.09	30.25
Lane Group LOS	E	C	C	E	B	B	E	D	D	E	D	C

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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.41	6.12	6.76	9.65	7.72	7.73	5.22	3.11	3.05	0.79	5.36	2.87
50th-Percentile Queue Length [ft/ln]	110.21	152.90	169.07	241.37	192.92	193.28	130.50	77.82	76.29	19.70	133.98	71.77
95th-Percentile Queue Length [veh/ln]	7.85	10.17	11.03	14.75	12.27	12.29	8.97	5.60	5.49	1.42	9.16	5.17
95th-Percentile Queue Length [ft/ln]	196.29	254.29	275.69	368.77	306.82	307.28	224.17	140.07	137.32	35.47	228.89	129.19

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.67	21.70	22.47	64.40	18.45	19.27	63.44	42.38	42.78	58.99	54.09	30.25
Movement LOS	E	C	C	E	B	B	E	D	D	E	D	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	27.77			32.25			52.34			44.98		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.24											
Intersection LOS	D											
Intersection V/C	0.560											

Option 1: SP NB Right to NB Thru-Right

Number	4											
Intersection	Sierra Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	134	1256	64	58	854	65	148	101	75	86	103	132
Total Analysis Volume [veh/h]	141	1322	51	179	899	52	156	106	59	91	108	125

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.56	0.56	0.06	0.56	0.56	0.10	0.14	0.14	0.07	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.20	0.05	0.17	0.17	0.09	0.03	0.04	0.05	0.03	0.08
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1854	3514	3618	1847	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	2905	1041	199	2031	1037	182	502	224	119	376	168
X, volume / capacity	0.71	0.35	0.35	0.90	0.31	0.31	0.86	0.21	0.26	0.76	0.29	0.74
d, Delay for Lane Group [s/veh]	46.44	11.11	11.70	55.94	10.90	11.28	50.77	34.65	35.32	51.11	37.73	45.63
Lane Group LOS	D	B	B	E	B	B	D	C	D	D	D	D



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Critical Lane Group	No	NO	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	1.65	3.46	3.90	2.33	3.18	3.37	3.90	1.03	1.18	2.29	1.11	2.95
50th-Percentile Queue Length [ft/ln]	41.27	86.59	97.46	58.31	79.57	84.15	97.53	25.85	29.55	57.14	27.75	73.68
95th-Percentile Queue Length [veh/ln]	2.97	6.23	7.02	4.20	5.73	6.06	7.02	1.86	2.13	4.11	2.00	5.30
95th-Percentile Queue Length [ft/ln]	74.28	155.87	175.43	104.96	143.23	151.47	175.55	46.53	53.19	102.84	49.95	132.62

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	46.44	11.25	11.70	55.94	11.02	11.28	50.77	34.65	35.32	51.11	37.73	45.63
Movement LOS	D	B	B	E	B	B	D	C	D	D	D	D
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	14.54			18.14			42.61			44.53		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	21.47											
Intersection LOS	C											
Intersection V/C	0.410											

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Option 1: SP EB Thru

Number	5											
Intersection	Laurel Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	5	3	6	13	0	12	13	442	5	8	224	10
Total Analysis Volume [veh/h]	20	3	15	14	0	13	14	539	65	41	254	11

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	635	638	726	751	757
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	9.03	8.89	11.29	10.79	10.95
95th-Percentile Queue Length [veh]	0.19	0.13	2.14	2.02	1.97
95th-Percentile Queue Length [ft]	4.76	3.31	53.43	50.53	49.19
Approach Delay [s/veh]	9.03	8.89	11.04		10.95
Approach LOS	A	A	B		B
Intersection Delay [s/veh]	10.88				
Intersection LOS	B				

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**Option 1: SP Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	75	320	59	9	192	7	14	154	265	96	128	25
Total Analysis Volume [veh/h]	88	341	66	9	219	7	15	203	320	118	176	26

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	406	438	392	422	464	410
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	14.00	56.11	24.96	20.00	26.07	36.80
95th-Percentile Queue Length [veh]	0.81	10.61	3.76	2.88	5.19	6.70
95th-Percentile Queue Length [ft]	20.34	265.15	93.97	72.02	129.83	167.52
Approach Delay [s/veh]	48.62		24.96	23.61		36.80
Approach LOS	E		C	C		E
Intersection Delay [s/veh]	34.26					
Intersection LOS	D					

Option 1: SP Signalized, SB and WB left

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	299	39	22	239	37	97
Total Analysis Volume [veh/h]	332	43	57	256	43	177

Intersection Settings

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	19	0	0	19	41	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.72	0.72	0.72	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.21	0.06	0.14	0.03	0.12
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800
Arrival type	3	3	3	3	3
s, saturation flow rate [veh/h]	1764	1024	1800	1714	1530
c, Capacity [veh/h]	1262	728	1288	260	232
X, volume / capacity	0.30	0.08	0.20	0.17	0.76
d, Delay for Lane Group [s/veh]	3.69	5.44	3.18	22.48	29.64
Lane Group LOS	A	A	A	C	C

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Critical Lane Group	Yes	No	No	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.77	0.28	0.68	0.52	2.59
50th-Percentile Queue Length [ft/ln]	19.19	6.89	16.90	12.97	64.78
95th-Percentile Queue Length [veh/ln]	1.38	0.50	1.22	0.93	4.66
95th-Percentile Queue Length [ft/ln]	34.54	12.41	30.42	23.35	116.60

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	3.69	3.69	5.44	3.18	22.48	29.64
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	3.69		3.59		28.24	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	9.60					
Intersection LOS	A					
Intersection V/C	0.328					

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**Option 1: SP EB Thru**

Number	8											
Intersection	Maple Ave/Santa Ana Ave											
Control Type	Two-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	10	10	39	34	12	42	5	250	6	10	340	10
Total Analysis Volume [veh/h]	19	11	41	36	13	44	5	276	39	11	408	11

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Capacity Analysis**

Calculated Rank	4	3	2	4	3	2	2	1	1	2	1	1
v_c, Conflicting Flow Rate	560	747	158	589	761	210	419	0	0	315	0	0
v_c, Stage 1	306	306	158	436	436	210	419	0	0	315	0	0
v_c, Stage 2	255	441	0	154	325	0	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	415	344	866	396	338	802	1151	0	0	1257	0	0
c_p,x, Stage 1 [veh/h]	685	666	1172	575	584	1199	1855	0	0	1799	0	0
c_p,x, Stage 2 [veh/h]	733	580	1091	839	653	1091	1636	0	0	1636	0	0
c_m,x, Movement Capacity [veh/h]	376	338	866	363	332	802	1151	100000	100000	1257	100000	100000
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	376	338	866	363	332	802	1151	100000	100000	1257	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.03	0.05	0.10	0.04	0.05	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	15.56	16.62	10.14	16.68	17.61	11.26	8.14	0.00	0.00	7.89	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
Critical Movement	No	No	No	No	Yes	No	No	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.45	0.45	0.45	0.71	0.71	0.71	0.01	0.01	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	11.16	11.16	11.16	17.68	17.68	17.68	0.33	0.16	0.00	0.66	0.66	0.66
d_A, Approach Delay [s/veh]	12.60			14.25			0.13			0.20		
Approach LOS	B			B			A			A		
V/C_I, Worst Movement V/C Ratio	0.04											
d_I, Worst Movement Control Delay [s/veh]	17.61											
d_I, Intersection Delay [s/veh]	2.57											
Intersection LOS	C											

**Option 1: SP WB Thru and Two Stage Gap**

Number	9					
Intersection	Maple Ave/Jurupa Ave					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	T		↑		↑↑	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Base Volume Input [veh/h]	36	4	2	218	104	7
Total Analysis Volume [veh/h]	54	4	2	267	260	68

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	100	0	0

**Capacity Analysis**

Calculated Rank	3	2	2	1	1	1
v_c, Conflicting Flow Rate	432	164	328	0	0	0
v_c, Stage 1	294	164	328	0	0	0
v_c, Stage 2	138	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	557	858	1243	0	0	0
c_p,x, Stage 1 [veh/h]	736	1175	1806	0	0	0
c_p,x, Stage 2 [veh/h]	881	1091	1636	0	0	0
c_m,x, Movement Capacity [veh/h]	556	858	1243	100000	100000	100000
c_m,x, Stage 1 [veh/h]	736	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	879	0	0	0	0	0
c_T, Total Capacity [veh/h]	736	858	1243	100000	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.07	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.30	9.60	7.90	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
Critical Movement	Yes	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.25	0.25	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.33	6.33	0.12	0.12	0.00	0.00
d_A, Approach Delay [s/veh]	10.25		0.06		0.00	
Approach LOS	B		A		A	
V/C_I, Worst Movement V/C Ratio	0.07					
d_I, Worst Movement Control Delay [s/veh]	10.30					
d_I, Intersection Delay [s/veh]	0.93					
Intersection LOS	B					

Option 1: SP 2nd EB Thru Lane

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	7	38	6	14	18	27	8	164	15	3	78	17
Total Analysis Volume [veh/h]	7	40	6	29	19	28	8	231	16	3	313	78

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	665	683	684	701	703	817
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	8.89	8.94	9.16	8.98	11.93	7.58
95th-Percentile Queue Length [veh]	0.26	0.37	0.68	0.66	2.33	0.32
95th-Percentile Queue Length [ft]	6.48	9.35	17.00	16.54	58.37	7.90
Approach Delay [s/veh]	8.89	8.94	9.07		11.06	
Approach LOS	A	A	A		B	
Intersection Delay [s/veh]	10.05					
Intersection LOS	B					



Option 1: SP SB Thru to SB Thru-Right and add NB Thru

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	386	1196	0	0	1345	1012	0	0	0	358	5	486
Total Analysis Volume [veh/h]	427	1268	0	0	1452	799	0	0	0	465	5	383

**Intersection Settings**

Cycle Length [s]	75											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	22	52	0	0	30	0	0	0	0	0	23	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.24	0.64	0.35	0.35	0.35		0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.25	0.26	0.31	0.35	0.35		0.26	0.24
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3			3	3	
s, saturation flow rate [veh/h]	1714	4903	3618	1615	1615		1810	1615
c, Capacity [veh/h]	412	3137	1252	559	559		459	410
X, volume / capacity	1.04	0.40	0.90	1.01	1.01		1.02	0.93
d, Delay for Lane Group [s/veh]	64.36	6.97	33.74	64.34	64.34		60.22	40.69
Lane Group LOS	F	A	C	F	F		F	D

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Critical Lane Group	Yes	No	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	11.14	2.75	10.59	15.36	15.36		11.92	7.88
50th-Percentile Queue Length [ft/ln]	278.55	68.78	264.81	384.07	384.07		297.90	196.94
95th-Percentile Queue Length [veh/ln]	16.94	4.95	15.93	21.89	21.89		17.81	12.48
95th-Percentile Queue Length [ft/ln]	423.44	123.80	398.25	547.23	547.23		445.19	312.02

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	64.36	6.97	0.00	0.00	33.74	64.34	0.00	0.00	0.00	60.22	60.22	40.69
Movement LOS	F	A			C	E				F	E	D
Critical Movement	Yes	No			No	No				No	No	No
d_A, Approach Delay [s/veh]	21.42			49.04			0.00			51.45		
Approach LOS	C			D			A			D		
d_I, Intersection Delay [s/veh]	39.72											
Intersection LOS	D											
Intersection V/C	0.857											

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**Option 1: SP EB Right Turn Lane**

Number	12											
Intersection	Cedar Ave/I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	1494	385	487	1257	0	608	4	476	0	0	0
Total Analysis Volume [veh/h]	0	1603	320	513	1446	0	640	4	440	0	0	0

**Intersection Settings**

Cycle Length [s]	75											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	26	0	25	51	0	0	24	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.29	0.29	0.28	0.63	0.27	0.27	0.27	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.20	0.30	0.40	0.19	0.19	0.29	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1715	1530	
c, Capacity [veh/h]	1518	474	480	2267	458	458	408	
X, volume / capacity	1.06	0.68	1.07	0.64	0.70	0.70	1.08	
d, Delay for Lane Group [s/veh]	65.99	30.94	77.04	10.12	26.87	26.86	81.73	
Lane Group LOS	F	C	F	B	C	C	F	

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Critical Lane Group	Yes	No	Yes	NO	NO	NO	Yes	
50th-Percentile Queue Length [veh/ln]	14.03	5.72	14.76	6.34	5.17	5.17	13.06	
50th-Percentile Queue Length [ft/ln]	350.85	143.05	369.05	158.59	129.34	129.31	326.53	
95th-Percentile Queue Length [veh/ln]	20.85	9.65	21.90	10.47	8.90	8.90	19.81	
95th-Percentile Queue Length [ft/ln]	521.16	241.13	547.46	261.85	222.60	222.56	495.13	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	65.99	30.94	77.04	10.12	0.00	26.86	26.86	81.73	0.00	0.00	0.00
Movement LOS		F	C	F	B		C	C	F			
Critical Movement		No	No	No	No		No	No	Yes			
d_A, Approach Delay [s/veh]	60.16			27.64			49.14			0.00		
Approach LOS	E			C			D			A		
d_I, Intersection Delay [s/veh]	44.93											
Intersection LOS	D											
Intersection V/C	0.897											

Version 2021 (SP 0-2)

**Option 1: SP EB and WB Split Phasing**

Number	13											
Intersection	Cedar Ave/Orange St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	5	1489	4	80	1476	190	103	0	35	0	0	103
Total Analysis Volume [veh/h]	5	1619	3	84	1763	149	108	0	27	0	0	81

**Intersection Settings**

Cycle Length [s]	115											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	26	0	0	61	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.75	0.68	0.68	0.75	0.71	0.71	0.08	0.08	0.06
(v / s)_i Volume / Saturation Flow Rate	0.02	0.43	0.43	0.20	0.49	0.09	0.06	0.02	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	322	1900	1899	425	3618	1615	1714	1615	1615
c, Capacity [veh/h]	255	1282	1282	332	2565	1145	139	131	103
X, volume / capacity	0.02	0.63	0.63	0.25	0.69	0.13	0.78	0.21	0.79
d, Delay for Lane Group [s/veh]	8.47	12.98	12.99	10.55	11.03	5.60	60.74	50.16	65.36
Lane Group LOS	A	B	B	B	B	A	E	D	E

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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.03	11.44	11.44	0.62	11.54	1.12	3.40	0.76	2.66
50th-Percentile Queue Length [ft/ln]	0.69	285.99	285.97	15.41	288.48	28.11	84.91	18.88	66.42
95th-Percentile Queue Length [veh/ln]	0.05	16.99	16.99	1.11	17.11	2.02	6.11	1.36	4.78
95th-Percentile Queue Length [ft/ln]	1.24	424.66	424.64	27.74	427.76	50.60	152.83	33.98	119.56

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	8.47	12.99	12.99	10.55	11.03	5.60	60.74	50.16	50.16	65.36	65.36	65.36
Movement LOS	A	B	B	B	B	A	E	D	D	E	E	E
Critical Movement	No	No	No	No	No	No	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	12.97			10.60			58.62			65.36		
Approach LOS	B			B			E			E		
d_I, Intersection Delay [s/veh]	14.45											
Intersection LOS	B											
Intersection V/C	0.601											

Version 2021 (SP 0-2)

Option 1: SP 2nd EB left turn

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	956	12	314	988	174	205	75	54	10	117	270
Total Analysis Volume [veh/h]	104	1058	9	331	1249	137	216	79	42	11	123	213

Intersection Settings

Cycle Length [s]	95											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	30	0	24	43	0	11	31	0	10	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.07	0.39	0.39	0.21	0.53	0.53	0.07	0.22	0.22	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.28	0.28	0.19	0.37	0.37	0.06	0.02	0.03	0.01	0.06	0.13
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1835	3329	3427	1530	1714	1900	1615
c, Capacity [veh/h]	128	741	738	361	999	965	248	743	332	25	298	254
X, volume / capacity	0.81	0.72	0.72	0.92	0.70	0.71	0.87	0.11	0.13	0.44	0.41	0.84
d, Delay for Lane Group [s/veh]	55.10	30.65	30.67	50.20	20.96	21.58	52.72	29.93	30.17	58.25	37.07	46.27
Lane Group LOS	E	C	C	D	C	C	D	C	C	E	D	D

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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	2.80	11.06	11.03	8.72	11.73	11.78	2.81	0.73	0.78	0.34	2.63	5.27
50th-Percentile Queue Length [ft/ln]	70.09	276.39	275.72	218.00	293.28	294.42	70.15	18.15	19.61	8.45	65.64	131.81
95th-Percentile Queue Length [veh/ln]	5.05	16.51	16.47	13.56	17.35	17.40	5.05	1.31	1.41	0.61	4.73	9.04
95th-Percentile Queue Length [ft/ln]	126.16	412.72	411.87	339.07	433.70	435.12	126.27	32.67	35.29	15.20	118.15	225.96

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	55.10	30.66	30.67	50.20	21.24	21.58	52.72	29.93	30.17	58.25	37.07	46.27
Movement LOS	E	C	C	D	C	C	D	C	C	E	D	D
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	32.83			26.85			44.56			43.39		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	32.09											
Intersection LOS	C											
Intersection V/C	0.671											



Version 2021 (SP 0-2)

Option 1: SP EB and WB left turn

Number	15											
Intersection	Cedar Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	69	780	25	62	875	53	121	63	91	10	65	38
Total Analysis Volume [veh/h]	73	861	20	65	1081	80	140	66	72	11	68	29

Intersection Settings

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.52	0.52	0.06	0.52	0.52	0.22	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.04	0.31	0.31	0.11	0.08	0.01	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3
s, saturation flow rate [veh/h]	1714	1900	1885	1714	1900	1854	1319	1740	1271	1805
c, Capacity [veh/h]	102	995	987	95	989	965	304	384	268	398
X, volume / capacity	0.72	0.44	0.44	0.68	0.59	0.59	0.46	0.36	0.04	0.24
d, Delay for Lane Group [s/veh]	36.90	10.31	10.32	36.04	12.62	12.70	25.93	20.38	23.69	19.59
Lane Group LOS	D	B	B	D	B	B	C	C	C	B

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	1.23	3.32	3.29	1.09	5.07	4.98	1.88	1.57	0.13	1.02
50th-Percentile Queue Length [ft/ln]	30.86	82.88	82.30	27.17	126.77	124.47	47.11	39.36	3.27	25.59
95th-Percentile Queue Length [veh/ln]	2.22	5.97	5.93	1.96	8.76	8.64	3.39	2.83	0.24	1.84
95th-Percentile Queue Length [ft/ln]	55.54	149.19	148.14	48.91	219.09	215.96	84.80	70.85	5.89	46.06

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	36.90	10.31	10.32	36.04	12.66	12.70	25.93	20.38	20.38	23.69	19.59	19.59
Movement LOS	D	B	B	D	B	B	C	C	C	C	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	12.35			13.90			23.18			20.01		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.58											
Intersection LOS	B											
Intersection V/C	0.458											

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Option 1: SP EB left turn

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	34	759	107	92	1069	23	59	68	116	80	44	49
Total Analysis Volume [veh/h]	149	799	84	97	1125	138	102	76	113	84	63	39

Intersection Settings

Cycle Length [s]	70											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	19	0	25	32	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.11	0.50	0.50	0.07	0.46	0.46	0.26	0.26	0.26	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.09	0.24	0.24	0.06	0.34	0.34	0.07	0.04	0.07	0.11	0.11	0.02
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1837	1714	1900	1828	1360	1900	1615	1309	1615	1615
c, Capacity [veh/h]	184	946	915	126	881	848	241	489	415	418	415	415
X, volume / capacity	0.81	0.47	0.47	0.77	0.73	0.73	0.42	0.16	0.27	0.35	0.35	0.09
d, Delay for Lane Group [s/veh]	38.68	13.26	13.32	41.41	20.44	20.80	31.70	20.26	21.11	23.32	23.32	19.89
Lane Group LOS	D	B	B	D	C	C	C	C	C	C	C	B

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	2.78	4.50	4.37	1.89	8.62	8.43	1.68	0.93	1.44	2.05	0.47
50th-Percentile Queue Length [ft/ln]	69.47	112.61	109.28	47.25	215.41	210.72	42.09	23.33	36.04	51.35	11.80
95th-Percentile Queue Length [veh/ln]	5.00	7.99	7.80	3.40	13.43	13.19	3.03	1.68	2.60	3.70	0.85
95th-Percentile Queue Length [ft/ln]	125.04	199.63	195.00	85.05	335.76	329.75	75.77	41.99	64.88	92.42	21.25

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	38.68	13.28	13.32	41.41	20.60	20.80	31.70	20.26	21.11	23.32	23.32	19.89
Movement LOS	D	B	B	D	C	C	C	C	C	C	C	B
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	16.95			22.10			24.60			22.60		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	20.54											
Intersection LOS	C											
Intersection V/C	0.539											

Version 2021 (SP 0-2)

**Option 1: SP EB left**

Number	17											
Intersection	Cedar Ave/11th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	28	769	1	19	1167	28	109	30	35	24	19	20
Total Analysis Volume [veh/h]	29	923	1	20	1257	22	115	32	27	25	20	16

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.03	0.68	0.68	0.02	0.67	0.67	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.24	0.01	0.34	0.34	0.03	0.07	0.03
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1899	1714	1900	1889	1394	1729	1829
c, Capacity [veh/h]	59	1285	1284	44	1269	1261	173	263	265
X, volume / capacity	0.50	0.36	0.36	0.45	0.51	0.51	0.27	0.49	0.23
d, Delay for Lane Group [s/veh]	34.90	4.96	4.96	35.95	6.45	6.47	26.13	27.66	25.73
Lane Group LOS	C	A	A	D	A	A	C	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	0.49	1.82	1.82	0.36	3.09	3.07	0.62	1.77	0.80
50th-Percentile Queue Length [ft/ln]	12.35	45.56	45.55	8.94	77.18	76.87	15.48	44.25	19.97
95th-Percentile Queue Length [veh/ln]	0.89	3.28	3.28	0.64	5.56	5.53	1.11	3.19	1.44
95th-Percentile Queue Length [ft/ln]	22.24	82.01	81.98	16.10	138.92	138.37	27.87	79.65	35.94

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	34.90	4.96	4.96	35.95	6.46	6.47	26.85	27.66	27.66	25.73	25.73	25.73
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	5.87			6.91			27.25			25.73		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.40											
Intersection LOS	A											
Intersection V/C	0.429											

Version 2021 (SP 0-2)

**Option 1: SP EB left turn**

Number	18											
Intersection	Cedar Ave/7th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	172	713	13	27	1316	100	34	18	97	71	49	15
Total Analysis Volume [veh/h]	181	847	11	28	1409	82	53	19	77	75	52	12

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	0	9	22	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.13	0.66	0.66	0.03	0.56	0.56	0.11	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.11	0.23	0.23	0.02	0.39	0.40	0.00	0.09	0.09
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1891	1714	1900	1864	1359	1730	1547
c, Capacity [veh/h]	223	1252	1247	54	1065	1045	122	270	262
X, volume / capacity	0.81	0.34	0.34	0.52	0.70	0.71	0.01	0.55	0.53
d, Delay for Lane Group [s/veh]	32.39	5.26	5.26	36.00	13.48	13.68	23.89	27.74	27.78
Lane Group LOS	C	A	A	D	B	B	C	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	2.78	1.83	1.82	0.49	6.69	6.66	0.02	2.05	1.94
50th-Percentile Queue Length [ft/ln]	69.62	45.69	45.51	12.22	167.20	166.47	0.50	51.32	48.59
95th-Percentile Queue Length [veh/ln]	5.01	3.29	3.28	0.88	10.93	10.89	0.04	3.70	3.50
95th-Percentile Queue Length [ft/ln]	125.31	82.24	81.93	22.00	273.23	272.27	0.90	92.38	87.46

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	32.39	5.26	5.26	36.00	13.57	13.68	23.89	27.74	27.74	27.78	27.78	27.78
Movement LOS	C	A	A	D	B	B	C	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	9.99			13.99			27.70			27.78		
Approach LOS	A			B			C			C		
d_I, Intersection Delay [s/veh]	13.92											
Intersection LOS	B											
Intersection V/C	0.593											



Version 2021 (SP 0-2)

Option 1: SP 2nd SB left turn

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	66	355	417	560	782	43	34	70	49	315	117	481
Total Analysis Volume [veh/h]	69	400	329	607	829	34	36	74	39	332	123	433

Intersection Settings

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	19	19	0	21	21	0	0	19	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.27	0.27	0.19	0.42	0.42	0.09	0.09	0.26
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.20	0.17	0.23	0.02	0.02	0.06	0.25
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1810	3618	1615	3514	3618	1615	1810	1791	1833
c, Capacity [veh/h]	93	986	440	686	1506	672	156	154	474
X, volume / capacity	0.74	0.41	0.75	0.89	0.55	0.05	0.23	0.73	0.96
d, Delay for Lane Group [s/veh]	50.84	26.59	39.36	37.42	20.29	14.97	37.06	44.58	51.27
Lane Group LOS	D	C	D	D	C	B	D	D	D

Version 2021 (SP 0-2)

Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.69	3.38	7.26	6.31	6.16	0.40	0.72	2.54	11.51
50th-Percentile Queue Length [ft/ln]	42.17	84.60	181.38	157.83	154.00	10.12	18.02	63.55	287.73
95th-Percentile Queue Length [veh/ln]	3.04	6.09	11.67	10.43	10.23	0.73	1.30	4.58	17.07
95th-Percentile Queue Length [ft/ln]	75.90	152.27	291.81	260.84	255.76	18.22	32.43	114.39	426.82

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	50.84	26.59	39.36	37.42	20.29	14.97	37.06	44.58	44.58	51.27	51.27	0.00
Movement LOS	D	C	D	D	C	B	D	D	D	D	D	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	33.95			27.24			42.76			51.27		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.72											
Intersection LOS	C											
Intersection V/C	0.688											

Version 2021 (SP 0-2)

Option 1: SP 2nd WB left turn

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	773	203	38	786	0	4	31	82	101	17	22
Total Analysis Volume [veh/h]	61	884	160	40	845	0	4	33	64	106	18	17

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	22	32	0	9	19	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.04	0.67	0.67	0.04	0.66	0.66	0.06	0.06	0.05	0.05	
(v / s)_i Volume / Saturation Flow Rate	0.03	0.47	0.10	0.02	0.44	0.00	0.02	0.04	0.03	0.02	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	3514	1750	
c, Capacity [veh/h]	82	1276	1084	66	1259	1070	113	96	193	96	
X, volume / capacity	0.74	0.69	0.15	0.61	0.67	0.00	0.33	0.66	0.55	0.36	
d, Delay for Lane Group [s/veh]	54.76	12.22	5.69	51.44	12.12	0.00	42.33	49.09	43.93	43.38	
Lane Group LOS	D	B	A	D	B	A	D	D	D	D	

Version 2021 (SP 0-2)




Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	1.61	9.86	1.03	1.03	9.41	0.00	0.83	1.58	1.20	0.80
50th-Percentile Queue Length [ft/ln]	40.17	246.58	25.69	25.68	235.19	0.00	20.80	39.50	30.01	20.08
95th-Percentile Queue Length [veh/ln]	2.89	15.01	1.85	1.85	14.44	0.00	1.50	2.84	2.16	1.45
95th-Percentile Queue Length [ft/ln]	72.31	375.34	46.24	46.23	360.94	0.00	37.45	71.10	54.01	36.15

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	54.76	12.22	5.69	51.44	12.12	0.00	42.33	42.33	49.09	43.93	43.38	43.38
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	13.62			13.90			46.62			43.79		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.13											
Intersection LOS	B											
Intersection V/C	0.557											

Version 2021 (SP 0-2)

Option 1: SP 2nd SB left turn

Number	25											
Intersection	Market St/SR-60 EB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Base Volume Input [veh/h]	0	301	176	664	417	0	179	0	705	0	0	0
Total Analysis Volume [veh/h]	0	317	139	717	439	0	188	0	557	0	0	0

Intersection Settings

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	23	35	0	25	0	0	0	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.31	0.25	0.62	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.20	0.12	0.10	0.19	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	
Arrival type	3	3	3	3	3	
s, saturation flow rate [veh/h]	3618	3514	3618	1810	2859	
c, Capacity [veh/h]	1114	874	2255	441	697	
X, volume / capacity	0.28	0.82	0.19	0.43	0.80	
d, Delay for Lane Group [s/veh]	16.43	23.31	5.05	19.86	23.55	
Lane Group LOS	B	C	A	B	C	

Version 2021 (SP 0-2)

Critical Lane Group	Yes	Yes	NO	NO	Yes	
50th-Percentile Queue Length [veh/ln]	1.60	4.59	0.91	2.13	3.58	
50th-Percentile Queue Length [ft/ln]	40.01	114.86	22.69	53.15	89.59	
95th-Percentile Queue Length [veh/ln]	2.88	8.11	1.63	3.83	6.45	
95th-Percentile Queue Length [ft/ln]	72.01	202.74	40.84	95.67	161.27	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	16.43	0.00	23.31	5.05	0.00	19.86	0.00	23.55	0.00	0.00	0.00
Movement LOS		B		C	A		B		C			
Critical Movement		No	No	No	No		No		Yes			
d_A, Approach Delay [s/veh]	16.43			16.37			22.62			0.00		
Approach LOS	B			B			C			A		
d_I, Intersection Delay [s/veh]	18.48											
Intersection LOS	B											
Intersection V/C	0.487											

Version 2021 (SP 0-2)

**Option 1: SP NB and SB Thru**

Number	29					
Intersection	Locust Ave/Driveway 4					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Base Volume Input [veh/h]	0	454	553	0	0	0
Total Analysis Volume [veh/h]	17	496	657	0	0	4

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Capacity Analysis**

Calculated Rank	2	1	1	1	0	2
v_c, Conflicting Flow Rate	657	0	0	0	0	329
v_c, Stage 1	657	0	0	0	0	329
v_c, Stage 2	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	940	0	0	0	0	673
c_p,x, Stage 1 [veh/h]	1987	0	0	0	0	1263
c_p,x, Stage 2 [veh/h]	1636	0	0	0	0	1091
c_m,x, Movement Capacity [veh/h]	940	100000	100000	100000	0	673
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	940	100000	100000	100000	0	673

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	8.90	0.00	0.00	0.00	0.00	10.38
Movement LOS	A	A	A	A		B
Critical Movement	No	No	No			Yes
95th-Percentile Queue Length [veh/ln]	0.06	0.03	0.00	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	1.38	0.69	0.00	0.00	0.00	0.45
d_A, Approach Delay [s/veh]	0.29		0.00		10.38	
Approach LOS	A		A		B	
V/C_I, Worst Movement V/C Ratio	0.01					
d_I, Worst Movement Control Delay [s/veh]	10.38					
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

Version 2021 (SP 0-2)

**Option 1: SP NB and SB Thru**

Number	30					
Intersection	Locust Ave/Driveway 5					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	454	0	0	553	0	0
Total Analysis Volume [veh/h]	516	0	34	599	0	8

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Capacity Analysis**

Calculated Rank	1	1	2	1	0	2
v_c, Conflicting Flow Rate	0	0	516	0	0	258
v_c, Stage 1	0	0	516	0	0	258
v_c, Stage 2	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	0	0	1060	0	0	747
c_p,x, Stage 1 [veh/h]	0	0	1908	0	0	1225
c_p,x, Stage 2 [veh/h]	0	0	1636	0	0	1091
c_m,x, Movement Capacity [veh/h]	100000	100000	1060	100000	0	747
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	100000	100000	1060	100000	0	747

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.51	0.00	0.00	9.87
Movement LOS	A	A	A	A		A
Critical Movement	No		No	No		Yes
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.10	0.05	0.00	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.48	1.24	0.00	0.81
d_A, Approach Delay [s/veh]	0.00		0.46		9.87	
Approach LOS	A		A		A	
V/C_I, Worst Movement V/C Ratio	0.01					
d_I, Worst Movement Control Delay [s/veh]	9.87					
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	A					



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Option 1: SP NB and SB Thru

Number	31											
Intersection	Locust Ave/Driveway 6											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	454	0	0	553	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	38	533	42	0	596	6	2	0	7	15	0	0

Intersection Settings

Cycle Length [s]	65											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	33	0	9	32	0	0	23	0	0	23	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.04	0.80	0.80	0.00	0.76	0.76	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.02	0.16	0.16	0.00	0.17	0.17	0.01	0.01
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3	3
s, saturation flow rate [veh/h]	1714	1800	1754	1714	1800	1794	1753	1676
c, Capacity [veh/h]	69	1429	1393	3	1360	1355	103	144
X, volume / capacity	0.55	0.20	0.20	0.00	0.22	0.22	0.09	0.10
d, Delay for Lane Group [s/veh]	37.42	1.97	1.98	0.00	2.72	2.72	31.79	31.86
Lane Group LOS	D	A	A	A	A	A	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.67	0.17	0.17	0.00	0.69	0.69	0.14	0.24
50th-Percentile Queue Length [ft/ln]	16.63	4.34	4.33	0.00	17.18	17.15	3.62	5.93
95th-Percentile Queue Length [veh/ln]	1.20	0.31	0.31	0.00	1.24	1.23	0.26	0.43
95th-Percentile Queue Length [ft/ln]	29.93	7.80	7.79	0.00	30.93	30.87	6.51	10.67

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	37.42	1.98	1.98	0.00	2.72	2.72	31.79	31.79	31.79	31.86	31.86	31.86
Movement LOS	D	A	A	A	A	A	C	C	C	C	C	C
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	4.18			2.72			31.79			31.86		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	4.00											
Intersection LOS	A											
Intersection V/C	0.199											

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**Option 1: SP WB Thru**

Number	32					
Intersection	Driveway 7/Jurupa Ave					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Base Volume Input [veh/h]	0	0	0	220	108	0
Total Analysis Volume [veh/h]	4	4	17	265	247	17

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Capacity Analysis**

Calculated Rank	3	2	2	1	1	1
v_c, Conflicting Flow Rate	555	256	264	0	0	0
v_c, Stage 1	256	256	264	0	0	0
v_c, Stage 2	299	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	497	788	1312	0	0	0
c_p,x, Stage 1 [veh/h]	792	1224	1772	0	0	0
c_p,x, Stage 2 [veh/h]	757	1091	1636	0	0	0
c_m,x, Movement Capacity [veh/h]	489	788	1312	100000	100000	100000
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	489	788	1312	100000	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.44	9.65	7.78	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
Critical Movement	Yes	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.01	1.01	0.98	0.98	0.00	0.00
d_A, Approach Delay [s/veh]	11.05		0.47		0.00	
Approach LOS	B		A		A	
V/C_I, Worst Movement V/C Ratio	0.01					
d_I, Worst Movement Control Delay [s/veh]	12.44					
d_I, Intersection Delay [s/veh]	0.40					
Intersection LOS	B					

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Option 2: OY 1 3rd EB Left

Number	1											
Intersection	Sierra Ave/I-10 Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	633	801	489	972	728	1222	1074	0	571	413	0	707
Total Analysis Volume [veh/h]	675	846	386	1023	780	964	1131	0	478	435	0	558

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	32	0	40	32	0	48	0	0	48	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.22	0.35	0.30	0.43	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.19	0.16	0.29	0.15	0.21	0.12
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	3514	5176	3514	5176	5271	3514
c, Capacity [veh/h]	760	1813	1053	2244	1317	878
X, volume / capacity	0.89	0.47	0.97	0.35	0.86	0.50
d, Delay for Lane Group [s/veh]	49.31	31.11	49.24	23.06	44.68	38.92
Lane Group LOS	D	C	D	C	D	D





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Critical Lane Group	NO	Yes	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	9.90	6.32	15.72	4.92	10.05	5.14
50th-Percentile Queue Length [ft/ln]	247.59	158.03	393.08	122.96	251.33	128.55
95th-Percentile Queue Length [veh/ln]	15.06	10.44	22.23	8.56	15.25	8.86
95th-Percentile Queue Length [ft/ln]	376.62	261.11	555.66	213.89	381.33	221.52

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.31	31.11	0.00	49.24	23.06	0.00	44.68	0.00	0.00	38.92	0.00	0.00
Movement LOS	D	C		D	C		D			D		
Critical Movement	Yes	No	No	No	No	No	No		No	No		No
d_A, Approach Delay [s/veh]	39.18			37.91			44.68			38.92		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	39.96											
Intersection LOS	D											
Intersection V/C	0.669											

**Option 2: OY 1 EB Right to EB Thru-Right**

Number	2											
Intersection	Sierra Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	280	1249	88	550	954	307	309	271	101	49	348	350
Total Analysis Volume [veh/h]	295	1327	69	579	1054	242	325	285	80	52	366	276

**Intersection Settings**

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	28	40	0	24	36	0	16	46	0	10	40	40
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.10	0.47	0.47	0.17	0.54	0.54	0.10	0.19	0.19	0.03	0.13	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.20	0.20	0.16	0.24	0.24	0.09	0.07	0.07	0.01	0.10	0.10
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1839	3514	3618	1725	3514	3618	1699	3514	3618	2859
c, Capacity [veh/h]	367	2444	868	587	1934	922	353	696	327	124	460	936
X, volume / capacity	0.80	0.42	0.42	0.99	0.45	0.46	0.92	0.35	0.36	0.42	0.80	0.30
d, Delay for Lane Group [s/veh]	56.67	21.41	22.38	64.40	17.92	18.82	63.44	42.31	42.78	58.99	54.09	30.25
Lane Group LOS	E	C	C	E	B	B	E	D	D	E	D	C

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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.41	6.03	6.66	9.65	7.23	7.18	5.22	3.11	3.05	0.79	5.36	2.87
50th-Percentile Queue Length [ft/ln]	110.21	150.73	166.60	241.37	180.67	179.45	130.50	77.82	76.29	19.70	133.98	71.77
95th-Percentile Queue Length [veh/ln]	7.85	10.06	10.90	14.75	11.64	11.57	8.97	5.60	5.49	1.42	9.16	5.17
95th-Percentile Queue Length [ft/ln]	196.29	251.41	272.44	368.77	290.89	289.29	224.17	140.07	137.32	35.47	228.89	129.19

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.67	21.63	22.38	64.40	18.07	18.82	63.44	42.38	42.78	58.99	54.09	30.25
Movement LOS	E	C	C	E	B	B	E	D	D	E	D	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	27.77			32.48			52.34			44.98		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.39											
Intersection LOS	D											
Intersection V/C	0.558											

Option 2: OY 1 NB Right to NB Thru-Right

Number	4											
Intersection	Sierra Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	134	1256	64	58	854	65	148	101	75	86	103	132
Total Analysis Volume [veh/h]	141	1322	51	111	899	52	156	106	59	91	108	114

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.57	0.57	0.05	0.57	0.57	0.10	0.13	0.13	0.07	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.20	0.03	0.17	0.17	0.09	0.03	0.04	0.05	0.03	0.07
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1854	3514	3618	1847	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	2959	1060	187	2056	1050	182	477	213	119	351	157
X, volume / capacity	0.71	0.34	0.34	0.59	0.31	0.31	0.86	0.22	0.28	0.76	0.31	0.73
d, Delay for Lane Group [s/veh]	46.44	10.60	11.16	44.72	10.56	10.93	50.77	35.24	35.97	51.11	38.39	45.87
Lane Group LOS	D	B	B	D	B	B	D	D	D	D	D	D



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Critical Lane Group	No	NO	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	1.65	3.35	3.77	1.27	3.11	3.30	3.90	1.04	1.20	2.29	1.12	2.69
50th-Percentile Queue Length [ft/ln]	41.27	83.82	94.36	31.77	77.84	82.39	97.53	26.11	29.89	57.14	28.05	67.36
95th-Percentile Queue Length [veh/ln]	2.97	6.03	6.79	2.29	5.60	5.93	7.02	1.88	2.15	4.11	2.02	4.85
95th-Percentile Queue Length [ft/ln]	74.28	150.87	169.85	57.19	140.11	148.30	175.55	47.00	53.79	102.84	50.49	121.24

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	46.44	10.73	11.16	44.72	10.67	10.93	50.77	35.24	35.97	51.11	38.39	45.87
Movement LOS	D	B	B	D	B	B	D	D	D	D	D	D
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	14.07			14.24			42.92			44.81		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	20.01											
Intersection LOS	C											
Intersection V/C	0.384											

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Option 2: OY 1 EB Thru

Number	5											
Intersection	Laurel Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	5	3	6	13	0	12	13	442	5	8	224	10
Total Analysis Volume [veh/h]	12	3	11	14	0	13	14	497	31	22	243	11

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	660	663	737	753	776
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	8.68	8.66	10.41	10.15	10.18
95th-Percentile Queue Length [veh]	0.12	0.13	1.70	1.64	1.61
95th-Percentile Queue Length [ft]	3.07	3.18	42.42	41.06	40.37
Approach Delay [s/veh]	8.68	8.66	10.28		10.18
Approach LOS	A	A	B		B
Intersection Delay [s/veh]	10.15				
Intersection LOS	B				

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**Option 2: OY 1 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	75	320	59	9	192	7	14	154	265	96	128	25
Total Analysis Volume [veh/h]	83	339	64	9	209	7	15	180	296	108	153	26

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	428	463	418	443	489	429
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	13.12	43.87	21.24	17.06	20.72	26.77
95th-Percentile Queue Length [veh]	0.71	9.12	3.10	2.20	3.95	4.78
95th-Percentile Queue Length [ft]	17.75	228.01	77.60	55.05	98.87	119.44
Approach Delay [s/veh]	38.62		21.24	19.27		26.77
Approach LOS	E		C	C		D
Intersection Delay [s/veh]	27.33					
Intersection LOS	D					

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Option 2: OY 1 Signalized, SB and WB left

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	299	39	22	239	37	97
Total Analysis Volume [veh/h]	322	36	39	254	41	118

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	19	0	0	19	41	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.76	0.76	0.76	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.20	0.04	0.14	0.02	0.08
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800
Arrival type	3	3	3	3	3
s, saturation flow rate [veh/h]	1769	1040	1800	1714	1530
c, Capacity [veh/h]	1341	796	1365	186	166
X, volume / capacity	0.27	0.05	0.19	0.22	0.71
d, Delay for Lane Group [s/veh]	2.69	3.93	2.34	25.04	31.38
Lane Group LOS	A	A	A	C	C

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Critical Lane Group	Yes	No	No	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.38	0.14	0.45	0.53	1.79
50th-Percentile Queue Length [ft/ln]	9.58	3.61	11.20	13.36	44.72
95th-Percentile Queue Length [veh/ln]	0.69	0.26	0.81	0.96	3.22
95th-Percentile Queue Length [ft/ln]	17.24	6.50	20.17	24.05	80.50

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	2.69	2.69	3.93	2.34	25.04	31.38
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	2.69		2.56		29.74	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	7.95					
Intersection LOS	A					
Intersection V/C	0.280					

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**Option 2: OY 1 EB Thru**

Number	8											
Intersection	Maple Ave/Santa Ana Ave											
Control Type	Two-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	10	10	39	34	12	42	5	250	6	10	340	10
Total Analysis Volume [veh/h]	14	11	41	36	13	44	5	269	20	11	379	11

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Capacity Analysis**

Calculated Rank	4	3	2	4	3	2	2	1	1	2	1	1
v_c, Conflicting Flow Rate	724	701	279	722	706	385	390	0	0	289	0	0
v_c, Stage 1	289	289	279	407	407	385	390	0	0	289	0	0
v_c, Stage 2	435	412	0	315	299	0	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	344	365	765	345	363	668	1180	0	0	1284	0	0
c_p,x, Stage 1 [veh/h]	723	677	1236	625	601	1294	1839	0	0	1785	0	0
c_p,x, Stage 2 [veh/h]	604	598	1091	700	670	1091	1636	0	0	1636	0	0
c_m,x, Movement Capacity [veh/h]	308	360	765	315	357	668	1180	100000	100000	1284	100000	100000
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	308	360	765	315	357	668	1180	100000	100000	1284	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.03	0.05	0.11	0.04	0.07	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	17.73	16.06	10.76	18.73	17.37	12.70	8.07	0.00	0.00	7.83	0.00	0.00
Movement LOS	C	C	B	C	C	B	A	A	A	A	A	A
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.44	0.81	0.81	0.81	0.01	0.01	0.01	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	11.08	11.08	11.08	20.34	20.34	20.34	0.32	0.32	0.32	0.65	0.65	0.65
d_A, Approach Delay [s/veh]	13.12			15.69			0.14			0.21		
Approach LOS	B			C			A			A		
V/C_I, Worst Movement V/C Ratio	0.11											
d_I, Worst Movement Control Delay [s/veh]	18.73											
d_I, Intersection Delay [s/veh]	2.87											
Intersection LOS	C											

**Option 2: OY 1 WB Thru and Two Stage Gap**

Number	9					
Intersection	Maple Ave/Jurupa Ave					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Base Volume Input [veh/h]	36	4	2	218	104	7
Total Analysis Volume [veh/h]	45	4	2	247	173	34

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	100	0	0

**Capacity Analysis**

Calculated Rank	3	2	2	1	1	1
v_c, Conflicting Flow Rate	318	104	207	0	0	0
v_c, Stage 1	190	104	207	0	0	0
v_c, Stage 2	128	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	656	938	1376	0	0	0
c_p,x, Stage 1 [veh/h]	829	1143	1742	0	0	0
c_p,x, Stage 2 [veh/h]	891	1091	1636	0	0	0
c_m,x, Movement Capacity [veh/h]	655	938	1376	100000	100000	100000
c_m,x, Stage 1 [veh/h]	829	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	889	0	0	0	0	0
c_T, Total Capacity [veh/h]	829	938	1376	100000	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.61	9.11	7.62	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
Critical Movement	Yes	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.19	0.19	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.65	4.65	0.11	0.11	0.00	0.00
d_A, Approach Delay [s/veh]	9.57		0.06		0.00	
Approach LOS	A		A		A	
V/C_I, Worst Movement V/C Ratio	0.05					
d_I, Worst Movement Control Delay [s/veh]	9.61					
d_I, Intersection Delay [s/veh]	0.96					
Intersection LOS	A					

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**Option 2: OY 1 2nd EB Thru Lane**

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			⇄			⇄		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	7	38	6	14	18	27	8	164	15	3	78	17
Total Analysis Volume [veh/h]	7	40	6	22	19	28	8	199	16	3	179	43

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	726	750	713	733	716	834
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	8.35	8.29	8.68	8.49	9.43	7.25
95th-Percentile Queue Length [veh]	0.24	0.30	0.55	0.53	1.01	0.16
95th-Percentile Queue Length [ft]	5.89	7.58	13.80	13.37	25.18	4.07
Approach Delay [s/veh]	8.35	8.29	8.59		9.02	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	8.70					
Intersection LOS	A					



Option 2: OY 1 SB Thru to SB Thru-Right and add NB Thru

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	386	1196	0	0	1345	1012	0	0	0	358	5	486
Total Analysis Volume [veh/h]	417	1263	0	0	1432	799	0	0	0	414	5	383

**Intersection Settings**

Cycle Length [s]	75											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	22	53	0	0	31	0	0	0	0	0	22	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.24	0.65	0.36	0.36	0.36		0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.24	0.26	0.31	0.35	0.35		0.23	0.24
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3			3	3	
s, saturation flow rate [veh/h]	1714	4903	3618	1615	1615		1811	1615
c, Capacity [veh/h]	412	3202	1300	580	580		436	389
X, volume / capacity	1.01	0.39	0.86	0.96	0.96		0.96	0.99
d, Delay for Lane Group [s/veh]	56.73	6.46	29.82	52.50	52.50		43.80	50.51
Lane Group LOS	F	A	C	D	D		D	D

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Critical Lane Group	Yes	No	No	Yes	No		NO	Yes
50th-Percentile Queue Length [veh/ln]	10.27	2.58	9.80	13.59	13.59		8.95	8.89
50th-Percentile Queue Length [ft/ln]	256.70	64.39	245.03	339.67	339.67		223.85	222.32
95th-Percentile Queue Length [veh/ln]	15.62	4.64	14.94	19.63	19.63		13.86	13.78
95th-Percentile Queue Length [ft/ln]	390.46	115.91	373.39	490.80	490.80		346.53	344.58

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.73	6.46	0.00	0.00	29.82	52.50	0.00	0.00	0.00	43.80	43.80	50.51
Movement LOS	F	A			C	D				D	D	D
Critical Movement	Yes	No			No	No				No	No	No
d_A, Approach Delay [s/veh]	18.94				41.16		0.00		47.01			
Approach LOS	B				D		A		D			
d_I, Intersection Delay [s/veh]	34.23											
Intersection LOS	C											
Intersection V/C	0.826											

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**Option 2: OY 1 EB Right Turn Lane**

Number	12											
Intersection	Cedar Ave/I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	1494	385	487	1257	0	608	4	476	0	0	0
Total Analysis Volume [veh/h]	0	1587	312	513	1376	0	640	4	402	0	0	0

**Intersection Settings**

Cycle Length [s]	80											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	27	55	0	0	25	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.30	0.30	0.29	0.64	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.19	0.30	0.38	0.19	0.19	0.26	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1715	1530	
c, Capacity [veh/h]	1552	484	493	2306	451	451	402	
X, volume / capacity	1.02	0.64	1.04	0.60	0.71	0.71	1.00	
d, Delay for Lane Group [s/veh]	56.72	30.81	71.20	9.65	28.95	28.94	60.06	
Lane Group LOS	F	C	F	A	C	C	E	

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Critical Lane Group	Yes	No	Yes	NO	NO	NO	Yes	
50th-Percentile Queue Length [veh/ln]	13.50	5.78	14.81	6.12	5.63	5.62	10.78	
50th-Percentile Queue Length [ft/ln]	337.44	144.41	370.28	153.01	140.65	140.62	269.50	
95th-Percentile Queue Length [veh/ln]	19.79	9.72	21.64	10.18	9.52	9.51	16.16	
95th-Percentile Queue Length [ft/ln]	494.75	242.96	541.01	254.44	237.90	237.86	404.11	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	56.72	30.81	71.20	9.65	0.00	28.95	28.94	60.06	0.00	0.00	0.00
Movement LOS		F	C	F	A		C	C	E			
Critical Movement		No	No	Yes	No		No	No	No			
d_A, Approach Delay [s/veh]	52.46			26.37			40.90			0.00		
Approach LOS	D			C			D			A		
d_I, Intersection Delay [s/veh]	39.76											
Intersection LOS	D											
Intersection V/C	0.869											

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**Option 2: OY 1 EB and WB Split Phasing**

Number	13											
Intersection	Cedar Ave/Orange St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	5	1489	4	80	1476	190	103	0	35	0	0	103
Total Analysis Volume [veh/h]	5	1592	3	84	1642	149	108	0	27	0	0	81

**Intersection Settings**

Cycle Length [s]	115											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	26	0	0	61	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.75	0.68	0.68	0.75	0.71	0.71	0.08	0.08	0.06
(v / s)_i Volume / Saturation Flow Rate	0.01	0.42	0.42	0.19	0.45	0.09	0.06	0.02	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	355	1900	1899	432	3618	1615	1714	1615	1615
c, Capacity [veh/h]	281	1282	1282	338	2565	1145	139	131	103
X, volume / capacity	0.02	0.62	0.62	0.25	0.64	0.13	0.78	0.21	0.79
d, Delay for Lane Group [s/veh]	7.34	12.75	12.76	10.16	10.16	5.60	60.74	50.16	65.36
Lane Group LOS	A	B	B	B	B	A	E	D	E

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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.03	11.10	11.10	0.61	10.06	1.12	3.40	0.76	2.66
50th-Percentile Queue Length [ft/ln]	0.68	277.49	277.45	15.31	251.38	28.11	84.91	18.88	66.42
95th-Percentile Queue Length [veh/ln]	0.05	16.56	16.56	1.10	15.26	2.02	6.11	1.36	4.78
95th-Percentile Queue Length [ft/ln]	1.23	414.08	414.04	27.57	381.39	50.60	152.83	33.98	119.56

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	7.34	12.75	12.76	10.16	10.16	5.60	60.74	50.16	50.16	65.36	65.36	65.36
Movement LOS	A	B	B	B	B	A	E	D	D	E	E	E
Critical Movement	No	No	No	No	No	No	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	12.74			9.80			58.62			65.36		
Approach LOS	B			A			E			E		
d_I, Intersection Delay [s/veh]	14.08											
Intersection LOS	B											
Intersection V/C	0.568											

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**Option 2: OY 1 2nd EB left turn**

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	956	12	314	988	174	205	75	54	10	117	270
Total Analysis Volume [veh/h]	104	1031	9	331	1128	137	216	79	42	11	123	213

**Intersection Settings**

Cycle Length [s]	95											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	30	0	24	43	0	11	31	0	10	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.07	0.39	0.39	0.21	0.53	0.53	0.07	0.22	0.22	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.27	0.27	0.19	0.34	0.34	0.06	0.02	0.03	0.01	0.06	0.13
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1829	3329	3427	1530	1714	1900	1615
c, Capacity [veh/h]	128	741	738	361	999	962	248	743	332	25	298	254
X, volume / capacity	0.81	0.70	0.70	0.92	0.64	0.65	0.87	0.11	0.13	0.44	0.41	0.84
d, Delay for Lane Group [s/veh]	55.10	29.94	29.95	50.20	19.27	19.66	52.72	29.93	30.17	58.25	37.07	46.27
Lane Group LOS	E	C	C	D	B	B	D	C	C	E	D	D

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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	2.80	10.62	10.59	8.72	10.14	10.04	2.81	0.73	0.78	0.34	2.63	5.27
50th-Percentile Queue Length [ft/ln]	70.09	265.40	264.72	218.00	253.52	251.07	70.15	18.15	19.61	8.45	65.64	131.81
95th-Percentile Queue Length [veh/ln]	5.05	15.96	15.93	13.56	15.36	15.24	5.05	1.31	1.41	0.61	4.73	9.04
95th-Percentile Queue Length [ft/ln]	126.16	398.99	398.13	339.07	384.09	381.00	126.27	32.67	35.29	15.20	118.15	225.96

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	55.10	29.94	29.95	50.20	19.44	19.66	52.72	29.93	30.17	58.25	37.07	46.27
Movement LOS	E	C	C	D	B	B	D	C	C	E	D	D
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	32.23			25.83			44.56			43.39		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	31.59											
Intersection LOS	C											
Intersection V/C	0.664											



Version 2021 (SP 0-2)

Option 2: OY 1 EB and WB left turn

Number	15											
Intersection	Cedar Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	69	780	25	62	875	53	121	63	91	10	65	38
Total Analysis Volume [veh/h]	73	840	20	65	988	58	134	66	72	11	68	29

Intersection Settings

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.53	0.53	0.06	0.52	0.52	0.22	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.04	0.28	0.28	0.10	0.08	0.01	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3
s, saturation flow rate [veh/h]	1714	1900	1884	1714	1900	1863	1319	1740	1271	1805
c, Capacity [veh/h]	102	1003	995	95	997	977	298	376	262	390
X, volume / capacity	0.72	0.43	0.43	0.68	0.53	0.53	0.45	0.37	0.04	0.25
d, Delay for Lane Group [s/veh]	36.90	10.00	10.01	36.04	11.41	11.46	26.05	20.62	23.95	19.81
Lane Group LOS	D	B	B	D	B	B	C	C	C	B

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	1.23	3.16	3.14	1.09	4.25	4.18	1.81	1.59	0.13	1.03
50th-Percentile Queue Length [ft/ln]	30.86	79.10	78.54	27.17	106.25	104.52	45.16	39.67	3.30	25.79
95th-Percentile Queue Length [veh/ln]	2.22	5.70	5.65	1.96	7.63	7.53	3.25	2.86	0.24	1.86
95th-Percentile Queue Length [ft/ln]	55.54	142.39	141.36	48.91	190.78	188.14	81.30	71.41	5.93	46.43

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	36.90	10.01	10.01	36.04	11.43	11.46	26.05	20.62	20.62	23.95	19.81	19.81
Movement LOS	D	B	B	D	B	B	C	C	C	C	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	12.11			12.87			23.29			20.23		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.08											
Intersection LOS	B											
Intersection V/C	0.422											

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Option 2: OY 1 EB left turn

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	34	759	107	92	1069	23	59	68	116	80	44	49
Total Analysis Volume [veh/h]	84	799	84	97	1125	68	81	74	101	84	54	39

Intersection Settings

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	19	0	15	19	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.47	0.47	0.07	0.48	0.48	0.26	0.26	0.26	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.05	0.24	0.24	0.06	0.32	0.32	0.06	0.04	0.06	0.11	0.02	0.02
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1837	1714	1900	1862	1371	1900	1615	1266	1615	1615
c, Capacity [veh/h]	108	889	860	124	908	889	248	493	419	425	419	419
X, volume / capacity	0.78	0.50	0.50	0.78	0.66	0.66	0.33	0.15	0.24	0.32	0.09	0.09
d, Delay for Lane Group [s/veh]	39.08	13.16	13.23	37.50	15.79	15.90	26.98	17.26	17.85	19.90	16.96	16.96
Lane Group LOS	D	B	B	D	B	B	C	B	B	B	B	B

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	1.47	4.01	3.90	1.64	6.08	6.00	1.11	0.75	1.05	1.60	0.39
50th-Percentile Queue Length [ft/ln]	36.65	100.36	97.46	41.07	152.03	150.00	27.65	18.70	26.36	39.96	9.74
95th-Percentile Queue Length [veh/ln]	2.64	7.23	7.02	2.96	10.13	10.02	1.99	1.35	1.90	2.88	0.70
95th-Percentile Queue Length [ft/ln]	65.96	180.66	175.43	73.93	253.13	250.43	49.77	33.66	47.44	71.94	17.53

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	39.08	13.19	13.23	37.50	15.84	15.90	26.98	17.26	17.85	19.90	19.90	16.96
Movement LOS	D	B	B	D	B	B	C	B	B	B	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	15.44			17.48			20.57			19.26		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	17.15											
Intersection LOS	B											
Intersection V/C	0.475											

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Option 2: OY 1 EB left

Number	17											
Intersection	Cedar Ave/11th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	28	769	1	19	1167	28	109	30	35	24	19	20
Total Analysis Volume [veh/h]	29	858	1	20	1241	22	115	32	27	25	20	16

Intersection Settings

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.03	0.68	0.68	0.02	0.67	0.67	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.01	0.33	0.33	0.03	0.07	0.03
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1899	1714	1900	1888	1394	1729	1829
c, Capacity [veh/h]	59	1285	1284	44	1269	1261	173	263	265
X, volume / capacity	0.50	0.33	0.33	0.45	0.50	0.50	0.27	0.49	0.23
d, Delay for Lane Group [s/veh]	34.90	4.78	4.78	35.95	6.39	6.40	26.13	27.66	25.73
Lane Group LOS	C	A	A	D	A	A	C	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	0.49	1.65	1.65	0.36	3.03	3.01	0.62	1.77	0.80
50th-Percentile Queue Length [ft/ln]	12.35	41.32	41.31	8.94	75.66	75.35	15.48	44.25	19.97
95th-Percentile Queue Length [veh/ln]	0.89	2.97	2.97	0.64	5.45	5.43	1.11	3.19	1.44
95th-Percentile Queue Length [ft/ln]	22.24	74.37	74.35	16.10	136.19	135.63	27.87	79.65	35.94

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	34.90	4.78	4.78	35.95	6.39	6.40	26.85	27.66	27.66	25.73	25.73	25.73
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	5.76			6.85			27.25			25.73		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.41											
Intersection LOS	A											
Intersection V/C	0.424											

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**Option 2: OY 1 EB left turn**

Number	18											
Intersection	Cedar Ave/7th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	172	713	13	27	1316	100	34	18	97	71	49	15
Total Analysis Volume [veh/h]	181	792	11	28	1396	80	43	19	77	75	52	12

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	0	9	22	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.13	0.66	0.66	0.03	0.56	0.56	0.11	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.11	0.21	0.21	0.02	0.39	0.39	0.00	0.08	0.09
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1891	1714	1900	1864	1359	1754	1531
c, Capacity [veh/h]	222	1250	1244	54	1063	1043	121	273	262
X, volume / capacity	0.81	0.32	0.32	0.52	0.70	0.70	0.01	0.51	0.53
d, Delay for Lane Group [s/veh]	32.47	5.14	5.14	36.21	13.37	13.55	23.77	27.24	27.71
Lane Group LOS	C	A	A	D	B	B	C	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	2.79	1.68	1.68	0.49	6.58	6.55	0.01	1.90	1.94
50th-Percentile Queue Length [ft/ln]	69.71	42.09	41.92	12.27	164.62	163.79	0.23	47.51	48.56
95th-Percentile Queue Length [veh/ln]	5.02	3.03	3.02	0.88	10.79	10.75	0.02	3.42	3.50
95th-Percentile Queue Length [ft/ln]	125.49	75.77	75.46	22.09	269.83	268.73	0.42	85.52	87.40

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	32.47	5.14	5.14	36.21	13.46	13.55	23.77	27.24	27.24	27.71	27.71	27.71
Movement LOS	C	A	A	D	B	B	C	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	10.17			13.88			27.22			27.71		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.93											
Intersection LOS	B											
Intersection V/C	0.590											



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Option 2: OY 1 2nd SB left turn

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	66	355	417	560	782	43	34	70	49	315	117	481
Total Analysis Volume [veh/h]	69	385	329	598	826	34	36	74	39	332	123	402

Intersection Settings

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	19	19	0	21	21	0	0	19	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.28	0.28	0.19	0.42	0.42	0.09	0.09	0.26
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.20	0.17	0.23	0.02	0.02	0.06	0.25
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1810	3618	1615	3514	3618	1615	1810	1791	1833
c, Capacity [veh/h]	93	993	443	679	1506	672	156	154	474
X, volume / capacity	0.74	0.39	0.74	0.88	0.55	0.05	0.23	0.73	0.96
d, Delay for Lane Group [s/veh]	50.84	26.24	38.87	37.37	20.26	14.97	37.06	44.58	51.27
Lane Group LOS	D	C	D	D	C	B	D	D	D

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.69	3.23	7.20	6.21	6.13	0.40	0.72	2.54	11.51
50th-Percentile Queue Length [ft/ln]	42.17	80.67	180.10	155.25	153.25	10.12	18.02	63.55	287.73
95th-Percentile Queue Length [veh/ln]	3.04	5.81	11.61	10.30	10.19	0.73	1.30	4.58	17.07
95th-Percentile Queue Length [ft/ln]	75.90	145.20	290.15	257.43	254.76	18.22	32.43	114.39	426.82

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	50.84	26.24	38.87	37.37	20.26	14.97	37.06	44.58	44.58	51.27	51.27	0.00
Movement LOS	D	C	D	D	C	B	D	D	D	D	D	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	33.71			27.15			42.76			51.27		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.63											
Intersection LOS	C											
Intersection V/C	0.685											

Version 2021 (SP 0-2)

Option 2: OY 1 2nd WB left turn

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	773	203	38	786	0	4	31	82	101	17	22
Total Analysis Volume [veh/h]	61	843	160	40	836	0	4	33	64	106	18	17

Intersection Settings

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	27	0	9	19	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.66	0.66	0.04	0.65	0.65	0.06	0.06	0.06	0.06	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.03	0.44	0.10	0.02	0.44	0.00	0.02	0.04	0.03	0.03	0.02	0.02
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	3514	1750		
c, Capacity [veh/h]	84	1247	1060	68	1230	1046	114	98	203	101		
X, volume / capacity	0.73	0.68	0.15	0.59	0.68	0.00	0.32	0.66	0.52	0.35		
d, Delay for Lane Group [s/veh]	51.44	11.98	5.88	48.30	12.48	0.00	39.98	46.42	41.05	40.60		
Lane Group LOS	D	B	A	D	B	A	D	D	D	D		

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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	1.51	8.89	1.01	0.96	9.11	0.00	0.78	1.49	1.12	0.75
50th-Percentile Queue Length [ft/ln]	37.65	222.31	25.28	24.07	227.66	0.00	19.54	37.15	27.96	18.74
95th-Percentile Queue Length [veh/ln]	2.71	13.78	1.82	1.73	14.06	0.00	1.41	2.67	2.01	1.35
95th-Percentile Queue Length [ft/ln]	67.78	344.58	45.51	43.32	351.39	0.00	35.17	66.86	50.33	33.73

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	51.44	11.98	5.88	48.30	12.48	0.00	39.98	39.98	46.42	41.05	40.60	40.60
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	13.33			14.12			44.06			40.94		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.85											
Intersection LOS	B											
Intersection V/C	0.544											

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Option 2: OY 1 2nd SB left turn

Number	25											
Intersection	Market St/SR-60 EB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Base Volume Input [veh/h]	0	301	176	664	417	0	179	0	705	0	0	0
Total Analysis Volume [veh/h]	0	317	139	707	439	0	188	0	557	0	0	0

Intersection Settings

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	23	35	0	25	0	0	0	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.31	0.25	0.62	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.20	0.12	0.10	0.19	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	
Arrival type	3	3	3	3	3	
s, saturation flow rate [veh/h]	3618	3514	3618	1810	2859	
c, Capacity [veh/h]	1124	865	2255	441	697	
X, volume / capacity	0.28	0.82	0.19	0.43	0.80	
d, Delay for Lane Group [s/veh]	16.29	23.37	5.05	19.86	23.55	
Lane Group LOS	B	C	A	B	C	

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Critical Lane Group	Yes	Yes	NO	NO	Yes	
50th-Percentile Queue Length [veh/ln]	1.59	4.53	0.91	2.13	3.58	
50th-Percentile Queue Length [ft/ln]	39.79	113.34	22.69	53.15	89.59	
95th-Percentile Queue Length [veh/ln]	2.86	8.03	1.63	3.83	6.45	
95th-Percentile Queue Length [ft/ln]	71.61	200.63	40.84	95.67	161.27	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	16.29	0.00	23.37	5.05	0.00	19.86	0.00	23.55	0.00	0.00	0.00
Movement LOS		B		C	A		B		C			
Critical Movement		No	No	No	No		No		Yes			
d_A, Approach Delay [s/veh]	16.29			16.35			22.62			0.00		
Approach LOS	B			B			C			A		
d_I, Intersection Delay [s/veh]	18.46											
Intersection LOS	B											
Intersection V/C	0.484											

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**Option 3: OY 2 3rd EB Left**

Number	1											
Intersection	Sierra Ave/I-10 Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	633	801	489	972	728	1222	1074	0	571	413	0	707
Total Analysis Volume [veh/h]	680	848	386	1023	785	964	1131	0	487	435	0	558

**Intersection Settings**

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	32	0	40	32	0	48	0	0	48	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.22	0.35	0.30	0.43	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.19	0.16	0.29	0.15	0.21	0.12
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	3514	5176	3514	5176	5271	3514
c, Capacity [veh/h]	765	1813	1053	2237	1317	878
X, volume / capacity	0.89	0.47	0.97	0.35	0.86	0.50
d, Delay for Lane Group [s/veh]	49.22	31.13	49.24	23.21	44.68	38.92
Lane Group LOS	D	C	D	C	D	D

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Critical Lane Group	NO	Yes	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	9.97	6.34	15.72	4.97	10.05	5.14
50th-Percentile Queue Length [ft/ln]	249.35	158.48	393.08	124.27	251.33	128.55
95th-Percentile Queue Length [veh/ln]	15.15	10.47	22.23	8.63	15.25	8.86
95th-Percentile Queue Length [ft/ln]	378.83	261.71	555.66	215.68	381.33	221.52

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.22	31.13	0.00	49.24	23.21	0.00	44.68	0.00	0.00	38.92	0.00	0.00
Movement LOS	D	C		D	C		D			D		
Critical Movement	No	No	No	Yes	No	No	No		No	No		No
d_A, Approach Delay [s/veh]	39.18			37.94			44.68			38.92		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	39.97											
Intersection LOS	D											
Intersection V/C	0.670											



**Option 3: OY 2 EB Right to EB Thru-Right**

Number	2											
Intersection	Sierra Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	280	1249	88	550	954	307	309	271	101	49	348	350
Total Analysis Volume [veh/h]	295	1333	69	579	1072	242	325	285	80	52	366	276

**Intersection Settings**

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	26	40	0	24	38	0	16	47	0	9	40	40
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.10	0.47	0.47	0.17	0.54	0.54	0.10	0.19	0.19	0.03	0.13	0.33
(v / s)_i Volume / Saturation Flow Rate	0.08	0.20	0.20	0.16	0.25	0.25	0.09	0.07	0.07	0.01	0.10	0.10
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1839	3514	3618	1727	3514	3618	1699	3514	3618	2859
c, Capacity [veh/h]	366	2444	869	587	1935	924	353	696	327	124	460	936
X, volume / capacity	0.81	0.42	0.42	0.99	0.46	0.46	0.92	0.35	0.36	0.42	0.80	0.30
d, Delay for Lane Group [s/veh]	56.80	21.43	22.41	64.40	17.98	18.90	63.44	42.31	42.78	58.99	54.09	30.25
Lane Group LOS	E	C	C	E	B	B	E	D	D	E	D	C

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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.41	6.06	6.70	9.65	7.35	7.31	5.22	3.11	3.05	0.79	5.36	2.87
50th-Percentile Queue Length [ft/ln]	110.35	151.54	167.53	241.37	183.67	182.85	130.50	77.82	76.29	19.70	133.98	71.77
95th-Percentile Queue Length [veh/ln]	7.86	10.10	10.95	14.75	11.79	11.75	8.97	5.60	5.49	1.42	9.16	5.17
95th-Percentile Queue Length [ft/ln]	196.50	252.49	273.66	368.77	294.80	293.73	224.17	140.07	137.32	35.47	228.89	129.19

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	56.80	21.65	22.41	64.40	18.14	18.90	63.44	42.38	42.78	58.99	54.09	30.25
Movement LOS	E	C	C	E	B	B	E	D	D	E	D	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	27.79			32.39			52.34			44.98		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	35.35											
Intersection LOS	D											
Intersection V/C	0.558											

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**Option 3: OY 2 NB Right to NB Thru-Right**

Number	4											
Intersection	Sierra Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	134	1256	64	58	854	65	148	101	75	86	103	132
Total Analysis Volume [veh/h]	141	1322	51	128	899	52	156	106	59	91	108	118

**Intersection Settings**

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	13	40	0	11	38	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.06	0.57	0.57	0.06	0.57	0.57	0.10	0.13	0.13	0.07	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.20	0.04	0.17	0.17	0.09	0.03	0.04	0.05	0.03	0.07
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1854	3514	3618	1847	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	199	2928	1049	199	2047	1045	182	486	217	119	360	161
X, volume / capacity	0.71	0.35	0.35	0.64	0.31	0.31	0.86	0.22	0.27	0.76	0.30	0.73
d, Delay for Lane Group [s/veh]	46.44	10.89	11.47	45.13	10.68	11.06	50.77	35.03	35.73	51.11	38.15	45.78
Lane Group LOS	D	B	B	D	B	B	D	D	D	D	D	D

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	1.65	3.42	3.85	1.47	3.14	3.32	3.90	1.04	1.19	2.29	1.12	2.79
50th-Percentile Queue Length [ft/ln]	41.27	85.40	96.13	36.83	78.47	83.03	97.53	26.01	29.76	57.14	27.94	69.66
95th-Percentile Queue Length [veh/ln]	2.97	6.15	6.92	2.65	5.65	5.98	7.02	1.87	2.14	4.11	2.01	5.02
95th-Percentile Queue Length [ft/ln]	74.28	153.73	173.04	66.29	141.24	149.46	175.55	46.83	53.57	102.84	50.29	125.39

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	46.44	11.02	11.47	45.13	10.79	11.06	50.77	35.03	35.73	51.11	38.15	45.78
Movement LOS	D	B	B	D	B	B	D	D	D	D	D	D
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	14.34			14.88			42.81			44.71		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	20.33											
Intersection LOS	C											
Intersection V/C	0.391											

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**Option 3: OY 2 EB Thru**

Number	5											
Intersection	Laurel Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	5	3	6	13	0	12	13	442	5	8	224	10
Total Analysis Volume [veh/h]	15	3	12	14	0	13	14	508	39	27	247	11

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	652	656	733	752	771
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	8.79	8.72	10.62	10.31	10.39
95th-Percentile Queue Length [veh]	0.14	0.13	1.80	1.73	1.71
95th-Percentile Queue Length [ft]	3.61	3.21	45.05	43.35	42.84
Approach Delay [s/veh]	8.79	8.72	10.47		10.39
Approach LOS	A	A	B		B
Intersection Delay [s/veh]	10.33				
Intersection LOS	B				

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**Option 3: OY 2 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	75	320	59	9	192	7	14	154	265	96	128	25
Total Analysis Volume [veh/h]	85	339	64	9	212	7	15	186	303	111	159	26

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	422	455	411	438	482	424
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	13.38	46.50	22.16	17.73	21.97	28.94
95th-Percentile Queue Length [veh]	0.74	9.45	3.27	2.36	4.26	5.23
95th-Percentile Queue Length [ft]	18.60	236.15	81.83	59.04	106.61	130.87
Approach Delay [s/veh]	40.73		22.16	20.28		28.94
Approach LOS	E		C	C		D
Intersection Delay [s/veh]	28.84					
Intersection LOS	D					

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**Option 3: OY 2 Signalized, SB and WB left**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	299	39	22	239	37	97
Total Analysis Volume [veh/h]	324	38	42	254	41	132

**Intersection Settings**

Cycle Length [s]	60					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	19	0	0	19	41	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.75	0.75	0.75	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.20	0.04	0.14	0.02	0.09
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800
Arrival type	3	3	3	3	3
s, saturation flow rate [veh/h]	1767	1036	1800	1714	1530
c, Capacity [veh/h]	1322	780	1346	204	182
X, volume / capacity	0.27	0.05	0.19	0.20	0.73
d, Delay for Lane Group [s/veh]	2.91	4.25	2.53	24.37	30.94
Lane Group LOS	A	A	A	C	C

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Critical Lane Group	Yes	No	No	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.47	0.17	0.50	0.52	1.98
50th-Percentile Queue Length [ft/ln]	11.79	4.16	12.54	13.10	49.56
95th-Percentile Queue Length [veh/ln]	0.85	0.30	0.90	0.94	3.57
95th-Percentile Queue Length [ft/ln]	21.22	7.49	22.57	23.58	89.21

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	2.91	2.91	4.25	2.53	24.37	30.94
Movement LOS	A	A	A	A	C	C
Critical Movement	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	2.91		2.78		29.38	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	8.37					
Intersection LOS	A					
Intersection V/C	0.291					



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**Option 3: OY 2 EB Thru**

Number	8											
Intersection	Maple Ave/Santa Ana Ave											
Control Type	Two-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	10	10	39	34	12	42	5	250	6	10	340	10
Total Analysis Volume [veh/h]	16	11	41	36	13	44	5	271	25	11	387	11

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Capacity Analysis**

Calculated Rank	4	3	2	4	3	2	2	1	1	2	1	1
v_c, Conflicting Flow Rate	538	714	148	566	721	199	398	0	0	296	0	0
v_c, Stage 1	294	294	148	415	415	199	398	0	0	296	0	0
v_c, Stage 2	244	420	0	151	306	0	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	431	359	878	412	356	815	1172	0	0	1277	0	0
c_p,x, Stage 1 [veh/h]	696	674	1167	591	596	1193	1843	0	0	1789	0	0
c_p,x, Stage 2 [veh/h]	744	593	1091	842	665	1091	1636	0	0	1636	0	0
c_m,x, Movement Capacity [veh/h]	391	354	878	379	350	815	1172	100000	100000	1277	100000	100000
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	391	354	878	379	350	815	1172	100000	100000	1277	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.03	0.05	0.10	0.04	0.05	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	15.04	16.02	9.94	16.15	16.91	11.06	8.09	0.00	0.00	7.84	0.00	0.00
Movement LOS	C	C	A	C	C	B	A	A	A	A	A	A
Critical Movement	No	No	No	No	Yes	No	No	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.40	0.40	0.40	0.68	0.68	0.68	0.01	0.01	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	10.03	10.03	10.03	16.93	16.93	16.93	0.32	0.16	0.00	0.65	0.65	0.65
d_A, Approach Delay [s/veh]	12.12			13.85			0.13			0.21		
Approach LOS	B			B			A			A		
V/C_I, Worst Movement V/C Ratio	0.04											
d_I, Worst Movement Control Delay [s/veh]	16.91											
d_I, Intersection Delay [s/veh]	2.57											
Intersection LOS	C											

**Option 3: OY 2 WB Thru and Two Stage Gap**

Number	9					
Intersection	Maple Ave/Jurupa Ave					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	T		↑		↑↑	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Base Volume Input [veh/h]	36	4	2	218	104	7
Total Analysis Volume [veh/h]	46	4	2	252	193	42

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	100	0	0

**Capacity Analysis**

Calculated Rank	3	2	2	1	1	1
v_c, Conflicting Flow Rate	344	118	235	0	0	0
v_c, Stage 1	214	118	235	0	0	0
v_c, Stage 2	130	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	632	919	1344	0	0	0
c_p,x, Stage 1 [veh/h]	807	1151	1757	0	0	0
c_p,x, Stage 2 [veh/h]	888	1091	1636	0	0	0
c_m,x, Movement Capacity [veh/h]	631	919	1344	100000	100000	100000
c_m,x, Stage 1 [veh/h]	807	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	886	0	0	0	0	0
c_T, Total Capacity [veh/h]	807	919	1344	100000	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.75	9.21	7.68	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
Critical Movement	Yes	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.89	4.89	0.11	0.11	0.00	0.00
d_A, Approach Delay [s/veh]	9.71		0.06		0.00	
Approach LOS	A		A		A	
V/C_I, Worst Movement V/C Ratio	0.06					
d_I, Worst Movement Control Delay [s/veh]	9.75					
d_I, Intersection Delay [s/veh]	0.93					
Intersection LOS	A					

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**Option 3: OY 2 2nd EB Thru Lane**

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	7	38	6	14	18	27	8	164	15	3	78	17
Total Analysis Volume [veh/h]	7	40	6	23	19	28	8	205	16	3	211	53

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	710	733	707	726	714	831
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	8.48	8.43	8.78	8.59	9.89	7.33
95th-Percentile Queue Length [veh]	0.24	0.32	0.58	0.56	1.26	0.20
95th-Percentile Queue Length [ft]	6.03	7.89	14.40	13.96	31.49	5.10
Approach Delay [s/veh]	8.48	8.43	8.69		9.38	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	8.94					
Intersection LOS	A					

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Option 3: OY 2 SB Thru to SB Thru-right and add NB Thru

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	386	1196	0	0	1345	1012	0	0	0	358	5	486
Total Analysis Volume [veh/h]	419	1264	0	0	1436	799	0	0	0	427	5	383

**Intersection Settings**

Cycle Length [s]	75											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	22	53	0	0	31	0	0	0	0	0	22	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.24	0.65	0.36	0.36	0.36		0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.24	0.26	0.31	0.35	0.35		0.24	0.24
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3			3	3	
s, saturation flow rate [veh/h]	1714	4903	3618	1615	1615		1811	1615
c, Capacity [veh/h]	412	3202	1300	580	580		436	389
X, volume / capacity	1.02	0.39	0.86	0.96	0.96		0.99	0.99
d, Delay for Lane Group [s/veh]	58.17	6.46	29.92	52.86	52.86		50.68	50.51
Lane Group LOS	F	A	C	D	D		D	D

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Critical Lane Group	Yes	No	No	Yes	No		Yes	No
50th-Percentile Queue Length [veh/ln]	10.43	2.58	9.84	13.66	13.66		10.04	8.89
50th-Percentile Queue Length [ft/ln]	260.84	64.46	245.93	341.62	341.62		251.04	222.32
95th-Percentile Queue Length [veh/ln]	15.87	4.64	14.98	19.73	19.73		15.24	13.78
95th-Percentile Queue Length [ft/ln]	396.73	116.03	374.53	493.18	493.18		380.97	344.58

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	58.17	6.46	0.00	0.00	29.92	52.86	0.00	0.00	0.00	50.68	50.68	50.51
Movement LOS	F	A			C	D				D	D	D
Critical Movement	Yes	No			No	No				No	No	No
d_A, Approach Delay [s/veh]	19.34			41.39			0.00			50.60		
Approach LOS	B			D			A			D		
d_I, Intersection Delay [s/veh]	35.13											
Intersection LOS	D											
Intersection V/C	0.829											

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**Option 3: OY 2 EB Right Turn Lane**

Number	12											
Intersection	Cedar Ave/I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	1494	385	487	1257	0	608	4	476	0	0	0
Total Analysis Volume [veh/h]	0	1591	314	513	1393	0	640	4	412	0	0	0

**Intersection Settings**

Cycle Length [s]	80											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	27	55	0	0	25	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.30	0.30	0.29	0.64	0.26	0.26	0.26	
(v / s)_i Volume / Saturation Flow Rate	0.31	0.19	0.30	0.39	0.19	0.19	0.27	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3		3		3		3	
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1715	1530	
c, Capacity [veh/h]	1552	484	493	2306	451	451	402	
X, volume / capacity	1.02	0.65	1.04	0.60	0.71	0.71	1.02	
d, Delay for Lane Group [s/veh]	57.45	30.96	71.20	9.75	28.95	28.94	67.36	
Lane Group LOS	F	C	F	A	C	C	F	

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Critical Lane Group	Yes	No	Yes	NO	NO	NO	Yes	
50th-Percentile Queue Length [veh/ln]	13.60	5.83	14.81	6.25	5.63	5.62	11.60	
50th-Percentile Queue Length [ft/ln]	340.09	145.76	370.28	156.18	140.65	140.62	289.94	
95th-Percentile Queue Length [veh/ln]	19.95	9.79	21.64	10.35	9.52	9.51	17.42	
95th-Percentile Queue Length [ft/ln]	498.81	244.76	541.01	258.66	237.90	237.86	435.61	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	57.45	30.96	71.20	9.75	0.00	28.95	28.94	67.36	0.00	0.00	0.00
Movement LOS		F	C	F	A		C	C	F			
Critical Movement		No	No	Yes	No		No	No	No			
d_A, Approach Delay [s/veh]	53.09			26.29			43.93			0.00		
Approach LOS	D			C			D			A		
d_I, Intersection Delay [s/veh]	40.61											
Intersection LOS	D											
Intersection V/C	0.876											

**Option 3: OY 2 EB and WB Split Phasing**

Number	13											
Intersection	Cedar Ave/Orange St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	5	1489	4	80	1476	190	103	0	35	0	0	103
Total Analysis Volume [veh/h]	5	1598	3	84	1671	149	108	0	27	0	0	81

**Intersection Settings**

Cycle Length [s]	115											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	19	0	9	19	0	0	26	0	0	61	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.75	0.68	0.68	0.75	0.71	0.71	0.08	0.08	0.06
(v / s)_i Volume / Saturation Flow Rate	0.01	0.42	0.42	0.20	0.46	0.09	0.06	0.02	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	347	1900	1899	431	3618	1615	1714	1615	1615
c, Capacity [veh/h]	274	1282	1282	336	2565	1145	139	131	103
X, volume / capacity	0.02	0.62	0.62	0.25	0.65	0.13	0.78	0.21	0.79
d, Delay for Lane Group [s/veh]	7.59	12.80	12.81	10.24	10.35	5.60	60.74	50.16	65.36
Lane Group LOS	A	B	B	B	B	A	E	D	E



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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.03	11.17	11.17	0.61	10.39	1.12	3.40	0.76	2.66
50th-Percentile Queue Length [ft/ln]	0.69	279.36	279.33	15.34	259.82	28.11	84.91	18.88	66.42
95th-Percentile Queue Length [veh/ln]	0.05	16.66	16.65	1.10	15.68	2.02	6.11	1.36	4.78
95th-Percentile Queue Length [ft/ln]	1.23	416.41	416.37	27.61	391.99	50.60	152.83	33.98	119.56

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	7.59	12.80	12.81	10.24	10.35	5.60	60.74	50.16	50.16	65.36	65.36	65.36
Movement LOS	A	B	B	B	B	A	E	D	D	E	E	E
Critical Movement	No	No	No	No	No	No	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	12.79			9.98			58.62			65.36		
Approach LOS	B			A			E			E		
d_I, Intersection Delay [s/veh]	14.15											
Intersection LOS	B											
Intersection V/C	0.576											

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**Option 3: OY 2 2nd EB left turn**

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	99	956	12	314	988	174	205	75	54	10	117	270
Total Analysis Volume [veh/h]	104	1037	9	331	1157	137	216	79	42	11	123	213

**Intersection Settings**

Cycle Length [s]	95											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	30	0	24	43	0	11	31	0	10	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.07	0.39	0.39	0.21	0.53	0.53	0.07	0.22	0.22	0.01	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.06	0.28	0.28	0.19	0.34	0.35	0.06	0.02	0.03	0.01	0.06	0.13
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1831	3329	3427	1530	1714	1900	1615
c, Capacity [veh/h]	128	741	738	361	999	963	248	743	332	25	298	254
X, volume / capacity	0.81	0.71	0.71	0.92	0.65	0.67	0.87	0.11	0.13	0.44	0.41	0.84
d, Delay for Lane Group [s/veh]	55.10	30.09	30.11	50.20	19.64	20.07	52.72	29.93	30.17	58.25	37.07	46.27
Lane Group LOS	E	C	C	D	B	C	D	C	C	E	D	D

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	2.80	10.71	10.68	8.72	10.50	10.44	2.81	0.73	0.78	0.34	2.63	5.27
50th-Percentile Queue Length [ft/ln]	70.09	267.81	267.12	218.00	262.61	260.88	70.15	18.15	19.61	8.45	65.64	131.81
95th-Percentile Queue Length [veh/ln]	5.05	16.08	16.05	13.56	15.82	15.73	5.05	1.31	1.41	0.61	4.73	9.04
95th-Percentile Queue Length [ft/ln]	126.16	402.00	401.14	339.07	395.49	393.32	126.27	32.67	35.29	15.20	118.15	225.96

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	55.10	30.10	30.11	50.20	19.83	20.07	52.72	29.93	30.17	58.25	37.07	46.27
Movement LOS	E	C	C	D	B	C	D	C	C	E	D	D
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	32.36			26.04			44.56			43.39		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	31.68											
Intersection LOS	C											
Intersection V/C	0.666											

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Option 3: OY 2 EB and WB left turn

Number	15											
Intersection	Cedar Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	69	780	25	62	875	53	121	63	91	10	65	38
Total Analysis Volume [veh/h]	73	844	20	65	1009	64	135	66	72	11	68	29

Intersection Settings

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	25	0	9	24	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.53	0.53	0.06	0.52	0.52	0.22	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.04	0.23	0.23	0.04	0.29	0.29	0.10	0.08	0.01	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3
s, saturation flow rate [veh/h]	1714	1900	1885	1714	1900	1860	1319	1740	1271	1805
c, Capacity [veh/h]	102	1002	994	95	995	975	299	378	263	392
X, volume / capacity	0.72	0.43	0.43	0.68	0.54	0.54	0.45	0.37	0.04	0.25
d, Delay for Lane Group [s/veh]	36.90	10.05	10.07	36.04	11.66	11.71	26.03	20.58	23.91	19.77
Lane Group LOS	D	B	B	D	B	B	C	C	C	B

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	Yes	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	1.23	3.19	3.17	1.09	4.43	4.35	1.82	1.58	0.13	1.03
50th-Percentile Queue Length [ft/ln]	30.86	79.79	79.22	27.17	110.74	108.83	45.49	39.62	3.29	25.76
95th-Percentile Queue Length [veh/ln]	2.22	5.74	5.70	1.96	7.88	7.78	3.28	2.85	0.24	1.85
95th-Percentile Queue Length [ft/ln]	55.54	143.62	142.59	48.91	197.02	194.38	81.88	71.32	5.93	46.37

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	36.90	10.06	10.07	36.04	11.69	11.71	26.03	20.58	20.58	23.91	19.77	19.77
Movement LOS	D	B	B	D	B	B	C	C	C	C	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	12.15			13.08			23.27			20.19		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	14.17											
Intersection LOS	B											
Intersection V/C	0.430											

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**Option 3: OY 2 EB left turn**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	34	759	107	92	1069	23	59	68	116	80	44	49
Total Analysis Volume [veh/h]	101	799	84	97	1125	84	85	74	103	84	56	39

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	19	0	15	23	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.07	0.47	0.47	0.07	0.46	0.46	0.26	0.26	0.26	0.26	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.06	0.24	0.24	0.06	0.32	0.32	0.06	0.04	0.06	0.11	0.02	0.02
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1837	1714	1900	1854	1369	1900	1615	1279	1615	1615
c, Capacity [veh/h]	128	885	856	124	881	859	252	497	423	431	423	423
X, volume / capacity	0.79	0.51	0.51	0.78	0.69	0.70	0.34	0.15	0.24	0.33	0.09	0.09
d, Delay for Lane Group [s/veh]	37.46	13.28	13.35	37.50	17.21	17.38	26.90	17.15	17.77	19.74	16.85	16.85
Lane Group LOS	D	B	B	D	B	B	C	B	B	B	B	B

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	1.71	4.04	3.93	1.64	6.55	6.44	1.16	0.74	1.07	1.61	0.39
50th-Percentile Queue Length [ft/ln]	42.70	101.05	98.13	41.07	163.64	161.12	28.98	18.62	26.81	40.34	9.70
95th-Percentile Queue Length [veh/ln]	3.07	7.28	7.07	2.96	10.74	10.61	2.09	1.34	1.93	2.90	0.70
95th-Percentile Queue Length [ft/ln]	76.86	181.88	176.63	73.93	268.53	265.20	52.16	33.52	48.25	72.62	17.45

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	37.46	13.31	13.35	37.50	17.29	17.38	26.90	17.15	17.77	19.74	19.74	16.85
Movement LOS	D	B	B	D	B	B	C	B	B	B	B	B
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	15.79			18.80			20.56			19.11		
Approach LOS	B			B			C			B		
d_I, Intersection Delay [s/veh]	17.90											
Intersection LOS	B											
Intersection V/C	0.491											

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**Option 3: OY 2 EB left**

Number	17											
Intersection	Cedar Ave/11th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	28	769	1	19	1167	28	109	30	35	24	19	20
Total Analysis Volume [veh/h]	29	875	1	20	1244	22	115	32	27	25	20	16

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	24	0	10	25	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.03	0.68	0.68	0.02	0.67	0.67	0.10	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.01	0.33	0.33	0.03	0.07	0.03
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1899	1714	1900	1888	1394	1729	1829
c, Capacity [veh/h]	59	1285	1284	44	1269	1261	173	263	265
X, volume / capacity	0.50	0.34	0.34	0.45	0.50	0.50	0.27	0.49	0.23
d, Delay for Lane Group [s/veh]	34.90	4.83	4.83	35.95	6.40	6.41	26.13	27.66	25.73
Lane Group LOS	C	A	A	D	A	A	C	C	C



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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	0.49	1.70	1.70	0.36	3.04	3.03	0.62	1.77	0.80
50th-Percentile Queue Length [ft/ln]	12.35	42.41	42.39	8.94	75.95	75.63	15.48	44.25	19.97
95th-Percentile Queue Length [veh/ln]	0.89	3.05	3.05	0.64	5.47	5.45	1.11	3.19	1.44
95th-Percentile Queue Length [ft/ln]	22.24	76.33	76.31	16.10	136.70	136.14	27.87	79.65	35.94

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	34.90	4.83	4.83	35.95	6.40	6.41	26.85	27.66	27.66	25.73	25.73	25.73
Movement LOS	C	A	A	D	A	A	C	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	5.79			6.86			27.25			25.73		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	8.40											
Intersection LOS	A											
Intersection V/C	0.425											

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**Option 3: OY 2 EB left turn**

Number	18											
Intersection	Cedar Ave/7th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	172	713	13	27	1316	100	34	18	97	71	49	15
Total Analysis Volume [veh/h]	181	805	11	28	1399	80	45	19	77	75	52	12

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	12	25	0	9	22	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.13	0.66	0.66	0.03	0.56	0.56	0.11	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.11	0.22	0.22	0.02	0.39	0.39	0.00	0.08	0.09
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1891	1714	1900	1864	1359	1748	1527
c, Capacity [veh/h]	222	1250	1244	54	1063	1043	121	273	262
X, volume / capacity	0.81	0.33	0.33	0.52	0.70	0.70	0.01	0.51	0.53
d, Delay for Lane Group [s/veh]	32.47	5.18	5.18	36.21	13.42	13.60	23.76	27.30	27.71
Lane Group LOS	C	A	A	D	B	B	C	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	2.79	1.72	1.71	0.49	6.62	6.58	0.01	1.93	1.94
50th-Percentile Queue Length [ft/ln]	69.71	43.03	42.85	12.27	165.38	164.57	0.24	48.28	48.56
95th-Percentile Queue Length [veh/ln]	5.02	3.10	3.09	0.88	10.83	10.79	0.02	3.48	3.50
95th-Percentile Queue Length [ft/ln]	125.49	77.45	77.13	22.09	270.83	269.76	0.42	86.91	87.41

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	32.47	5.18	5.18	36.21	13.51	13.60	23.76	27.30	27.30	27.71	27.71	27.71
Movement LOS	C	A	A	D	B	B	C	C	C	C	C	C
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	10.13			13.93			27.28			27.71		
Approach LOS	B			B			C			C		
d_I, Intersection Delay [s/veh]	13.94											
Intersection LOS	B											
Intersection V/C	0.591											

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**Option 3: OY 2 2nd SB left turn**

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	66	355	417	560	782	43	34	70	49	315	117	481
Total Analysis Volume [veh/h]	69	388	329	600	827	34	36	74	39	332	123	409

**Intersection Settings**

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	19	19	0	21	21	0	0	19	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.05	0.27	0.27	0.19	0.42	0.42	0.09	0.09	0.26
(v / s)_i Volume / Saturation Flow Rate	0.04	0.11	0.20	0.17	0.23	0.02	0.02	0.06	0.25
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1810	3618	1615	3514	3618	1615	1810	1791	1833
c, Capacity [veh/h]	93	991	443	680	1506	672	156	154	474
X, volume / capacity	0.74	0.39	0.74	0.88	0.55	0.05	0.23	0.73	0.96
d, Delay for Lane Group [s/veh]	50.84	26.31	38.98	37.38	20.27	14.97	37.06	44.58	51.27
Lane Group LOS	D	C	D	D	C	B	D	D	D

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.69	3.26	7.22	6.23	6.14	0.40	0.72	2.54	11.51
50th-Percentile Queue Length [ft/ln]	42.17	81.45	180.39	155.82	153.50	10.12	18.02	63.55	287.73
95th-Percentile Queue Length [veh/ln]	3.04	5.86	11.62	10.33	10.20	0.73	1.30	4.58	17.07
95th-Percentile Queue Length [ft/ln]	75.90	146.62	290.52	258.18	255.10	18.22	32.43	114.39	426.82

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	50.84	26.31	38.98	37.38	20.27	14.97	37.06	44.58	44.58	51.27	51.27	0.00
Movement LOS	D	C	D	D	C	B	D	D	D	D	D	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	33.77			27.17			42.76			51.27		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.65											
Intersection LOS	C											
Intersection V/C	0.686											

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Option 3: OY 2 2nd WB left turn

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	58	773	203	38	786	0	4	31	82	101	17	22
Total Analysis Volume [veh/h]	61	854	160	40	838	0	4	33	64	106	18	17

Intersection Settings

Cycle Length [s]	85											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	17	27	0	9	19	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.66	0.66	0.04	0.65	0.65	0.06	0.06	0.06	0.06		
(v / s)_i Volume / Saturation Flow Rate	0.03	0.45	0.10	0.02	0.44	0.00	0.02	0.04	0.03	0.02		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1890	1615	3514	1750		
c, Capacity [veh/h]	84	1247	1060	68	1230	1046	114	98	203	101		
X, volume / capacity	0.73	0.68	0.15	0.59	0.68	0.00	0.32	0.66	0.52	0.35		
d, Delay for Lane Group [s/veh]	51.44	12.20	5.88	48.30	12.52	0.00	39.98	46.42	41.05	40.60		
Lane Group LOS	D	B	A	D	B	A	D	D	D	D		

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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	1.51	9.12	1.01	0.96	9.15	0.00	0.78	1.49	1.12	0.75
50th-Percentile Queue Length [ft/ln]	37.65	228.00	25.28	24.07	228.72	0.00	19.54	37.15	27.96	18.74
95th-Percentile Queue Length [veh/ln]	2.71	14.07	1.82	1.73	14.11	0.00	1.41	2.67	2.01	1.35
95th-Percentile Queue Length [ft/ln]	67.78	351.81	45.51	43.32	352.73	0.00	35.17	66.86	50.33	33.73

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	51.44	12.20	5.88	48.30	12.52	0.00	39.98	39.98	46.42	41.05	40.60	40.60
Movement LOS	D	B	A	D	B	A	D	D	D	D	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	13.48			14.15			44.06			40.94		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.92											
Intersection LOS	B											
Intersection V/C	0.545											

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**Option 3: OY 2 2nd SB left turn**

Number	25											
Intersection	Market St/SR-60 EB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Base Volume Input [veh/h]	0	301	176	664	417	0	179	0	705	0	0	0
Total Analysis Volume [veh/h]	0	317	139	709	439	0	188	0	557	0	0	0

**Intersection Settings**

Cycle Length [s]	60											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	12	0	23	35	0	25	0	0	0	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.31	0.25	0.62	0.24	0.24	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.20	0.12	0.10	0.19	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	
Arrival type	3	3	3	3	3	
s, saturation flow rate [veh/h]	3618	3514	3618	1810	2859	
c, Capacity [veh/h]	1122	867	2255	441	697	
X, volume / capacity	0.28	0.82	0.19	0.43	0.80	
d, Delay for Lane Group [s/veh]	16.32	23.35	5.05	19.86	23.55	
Lane Group LOS	B	C	A	B	C	



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Critical Lane Group	Yes	Yes	NO	NO	Yes	
50th-Percentile Queue Length [veh/ln]	1.59	4.55	0.91	2.13	3.58	
50th-Percentile Queue Length [ft/ln]	39.83	113.64	22.69	53.15	89.59	
95th-Percentile Queue Length [veh/ln]	2.87	8.04	1.63	3.83	6.45	
95th-Percentile Queue Length [ft/ln]	71.69	201.05	40.84	95.67	161.27	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	16.32	0.00	23.35	5.05	0.00	19.86	0.00	23.55	0.00	0.00	0.00
Movement LOS		B		C	A		B		C			
Critical Movement		No	No	No	No		No		Yes			
d_A, Approach Delay [s/veh]	16.32			16.35			22.62			0.00		
Approach LOS	B			B			C			A		
d_I, Intersection Delay [s/veh]	18.46											
Intersection LOS	B											
Intersection V/C	0.484											

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## Bloomington Business Park Specific Plan

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Scenario 12 2040 PM + P

Report File: C:\...\2040 PM + P.pdf

5/6/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Thru	1.061	110.1	F
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	1.690	371.0	F
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.668	6.8	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	1.129	129.8	F
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	3.941	1,033.3	F
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	7.919	2,081.0	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Right	1.195	10,000.0	F
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	10.121	4,820.7	F
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	1.224	281.7	F
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	1.933	231.9	F
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	NB Left	1.321	170.0	F
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	NB Thru	1.064	95.8	F
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	NB Right	1.443	238.1	F
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Right	1.401	223.1	F
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Right	1.457	245.7	F
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Thru	3.794	362.9	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Right	1.015	71.7	E
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Right	1.169	119.3	F
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	WB Left	1.752	279.9	F
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	SB Left	1.172	133.8	F
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	EB Left	1.191	87.0	F
22	Market St/24th St	Signalized	HCM 6th Edition	SB Thru	1.170	161.6	F
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.608	17.3	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.724	14.8	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.943	55.4	E
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.019	8.9	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	NB Thru	0.100	9.6	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.015	9.5	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.277	80.6	F
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.174	26.6	D
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	SB Thru	1.237	119.5	F
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.239	62.2	F
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.024	9.9	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.020	9.1	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.008	9.3	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.085	22.5	C
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.040	9.3	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.032	9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report**  
**Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	110.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.061

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	800	2874	1153	592	1354	882	976	0	558	523	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	34	0	0	15	0	0	0	37	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	288	0	0	221	0	0	149	0	0	151
Total Hourly Volume [veh/h]	882	2908	865	592	1369	661	976	0	446	523	0	454
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	232	765	228	156	360	174	257	0	117	138	0	119
Total Analysis Volume [veh/h]	928	3061	911	623	1441	696	1027	0	469	551	0	478
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		2			4			3			3	
v_ci, Inbound Pedestrian Volume crossing mi		3			3			4			2	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	59	0	23	42	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	58	19	42	41	41
g / C, Green / Cycle	0.28	0.45	0.15	0.32	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.26	0.59	0.18	0.28	0.29	0.16
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	968	2324	515	1657	1096	1096
d1, Uniform Delay [s]	46.33	35.78	55.42	41.60	43.44	36.46
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.82	145.87	98.34	6.52	4.53	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.96	1.32	1.21	0.87	0.94	0.50
d, Delay for Lane Group [s/veh]	53.15	181.65	153.77	48.12	47.97	36.82
Lane Group LOS	D	F	F	D	D	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	15.30	54.66	15.40	15.28	15.45	6.70
50th-Percentile Queue Length [ft/ln]	382.43	1366.42	384.96	381.89	386.32	167.56
95th-Percentile Queue Length [veh/ln]	21.71	80.10	23.72	21.69	21.90	10.95
95th-Percentile Queue Length [ft/ln]	542.79	2002.47	593.03	542.13	547.49	273.71

**Movement, Approach, & Intersection Results**

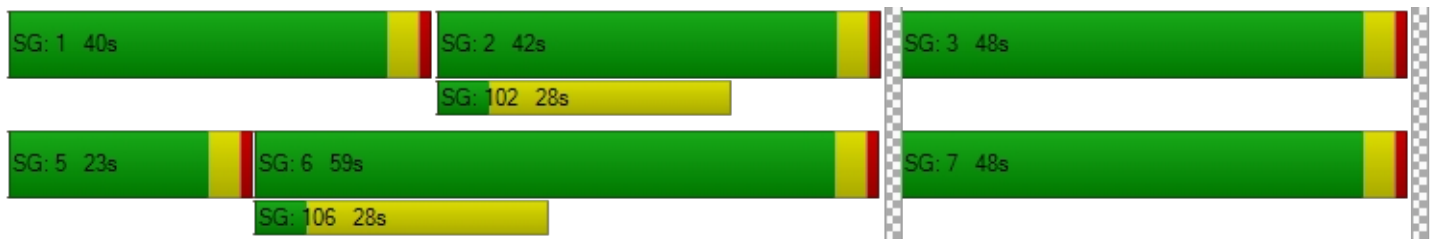
d_M, Delay for Movement [s/veh]	53.15	181.65	0.00	153.77	48.12	0.00	47.97	0.00	0.00	36.82	0.00	0.00
Movement LOS	D	F		F	D		D			D		
d_A, Approach Delay [s/veh]	151.76			80.01			47.97			36.82		
Approach LOS	F			F			D			D		
d_I, Intersection Delay [s/veh]	110.08											
Intersection LOS	F											
Intersection V/C	1.061											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	56.28	56.28
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	3.160	2.885
Crosswalk LOS	F	F	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	847	585	677	677
d_b, Bicycle Delay [s]	21.61	32.53	28.42	28.42
I_b,int, Bicycle LOS Score for Intersection	3.754	2.695	1.560	1.560
Bicycle LOS	D	B	A	A

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	371.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.690

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	3151	386	1557	1280	145	1200	1714	129	185	307	1746
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	116	0	0	52	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	97	0	0	36	0	0	32	0	0	437
Total Hourly Volume [veh/h]	166	3267	289	1557	1332	109	1200	1714	97	185	307	1309
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	860	76	410	351	29	316	451	26	49	81	344
Total Analysis Volume [veh/h]	175	3439	304	1639	1402	115	1263	1804	102	195	323	1378
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	12	40	0	28	56	0	22	53	0	9	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	36	36	24	52	52	18	49	49	5	36	64
g / C, Green / Cycle	0.06	0.28	0.28	0.18	0.40	0.40	0.14	0.38	0.38	0.04	0.28	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.53	0.56	0.47	0.27	0.29	0.36	0.50	0.06	0.06	0.09	0.48
s, saturation flow rate [veh/h]	3514	5176	1804	3514	3618	1829	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	217	1438	501	649	1450	733	487	1360	607	135	998	1405
d1, Uniform Delay [s]	60.24	46.94	46.94	53.00	32.18	32.66	56.00	40.57	27.02	62.50	37.42	32.47
k, delay calibration	0.11	0.50	0.50	0.46	0.50	0.50	0.29	0.21	0.11	0.11	0.11	0.36
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.00	409.46	459.63	690.94	2.66	5.82	721.18	149.23	0.13	206.67	0.19	16.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.81	1.90	2.01	2.53	0.69	0.71	2.59	1.33	0.17	1.44	0.32	0.98
d, Delay for Lane Group [s/veh]	67.24	456.40	506.57	743.94	34.84	38.49	777.18	189.79	27.15	269.17	37.60	48.91
Lane Group LOS	E	F	F	F	C	D	F	F	C	F	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.98	69.32	79.45	72.65	13.10	14.58	56.53	48.84	2.09	6.07	3.99	22.58
50th-Percentile Queue Length [ft/ln]	74.55	1732.90	1986.36	1816.27	327.40	364.42	1413.31	1220.92	52.14	151.70	99.68	564.39
95th-Percentile Queue Length [veh/ln]	5.37	108.62	124.53	113.41	19.03	20.84	87.94	71.76	3.75	10.92	7.18	30.37
95th-Percentile Queue Length [ft/ln]	134.18	2715.39	3113.24	2835.23	475.77	520.96	2198.40	1794.01	93.85	273.07	179.42	759.19

**Movement, Approach, & Intersection Results**

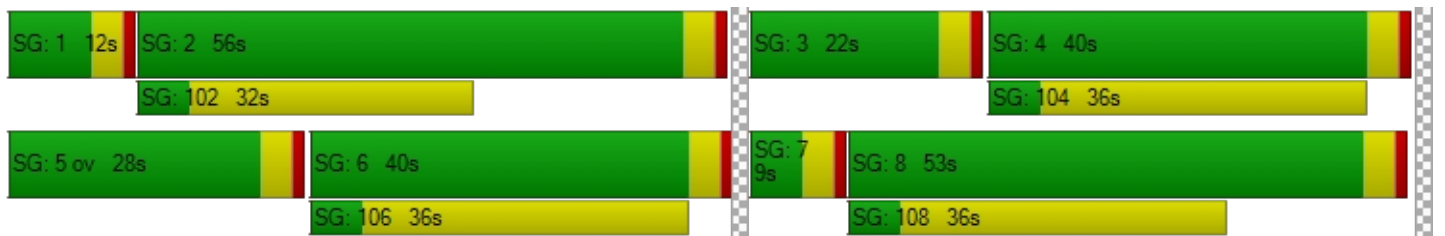
d_M, Delay for Movement [s/veh]	67.24	466.63	506.57	743.94	35.90	38.49	777.18	189.79	27.15	269.17	37.60	48.91
Movement LOS	E	F	F	F	D	D	F	F	C	F	D	D
d_A, Approach Delay [s/veh]	451.89			403.70			418.66			69.64		
Approach LOS	F			F			F			E		
d_I, Intersection Delay [s/veh]	370.98											
Intersection LOS	F											
Intersection V/C	1.690											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	4.044	4.322	3.494	4.605
Crosswalk LOS	D	E	C	E
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	800	754	554
d_b, Bicycle Delay [s]	33.99	23.40	25.24	33.99
I_b,int, Bicycle LOS Score for Intersection	3.216	3.315	4.200	3.484
Bicycle LOS	C	C	D	C

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	2874	25	59	1592	15	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	116	0	0	52	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	22
Total Hourly Volume [veh/h]	2990	19	59	1644	15	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	787	5	16	433	4	17
Total Analysis Volume [veh/h]	3147	20	62	1731	16	69
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Version 2021 (SP 0-2)

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	32	88	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	97	97	4	105	7	7
g / C, Green / Cycle	0.81	0.81	0.04	0.88	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.61	0.01	0.02	0.33	0.01	0.04
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4172	1302	129	4535	103	92
d1, Uniform Delay [s]	5.76	2.29	56.65	1.38	53.80	55.70
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.31	0.02	2.74	0.24	0.69	11.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.75	0.02	0.48	0.38	0.15	0.75
d, Delay for Lane Group [s/veh]	7.07	2.31	59.39	1.63	54.48	67.05
Lane Group LOS	A	A	E	A	D	E
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.63	0.06	0.97	1.18	0.48	2.35
50th-Percentile Queue Length [ft/ln]	190.75	1.54	24.29	29.44	12.01	58.70
95th-Percentile Queue Length [veh/ln]	12.16	0.11	1.75	2.12	0.86	4.23
95th-Percentile Queue Length [ft/ln]	304.00	2.78	43.71	53.00	21.62	105.67

**Movement, Approach, & Intersection Results**

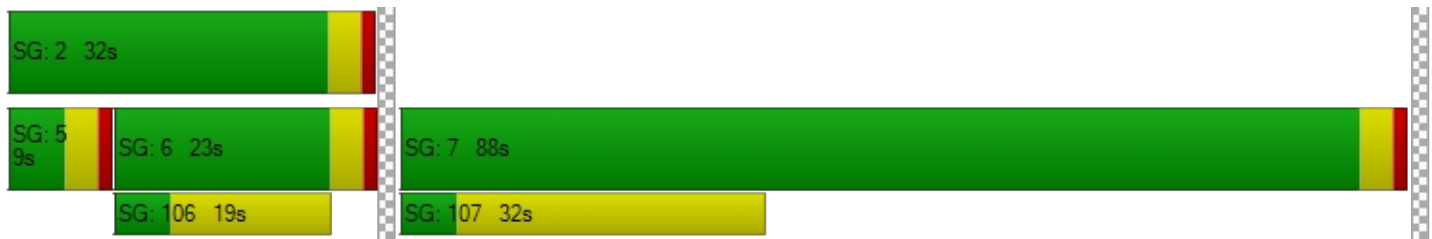
d_M, Delay for Movement [s/veh]	7.07	2.31	59.39	1.63	54.48	67.05
Movement LOS	A	A	E	A	D	E
d_A, Approach Delay [s/veh]	7.04		3.62		64.68	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	6.80					
Intersection LOS	A					
Intersection V/C	0.668					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.33	51.33
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.354	2.225
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	317	467	1400
d_b, Bicycle Delay [s]	42.50	35.26	5.40
I_b,int, Bicycle LOS Score for Intersection	3.305	2.546	1.560
Bicycle LOS	C	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	129.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.129

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	237	2460	480	534	1242	97	218	1123	221	218	156	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	52	0	0	0	0	0	0	0	116
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	120	0	0	24	0	0	55	0	0	71
Total Hourly Volume [veh/h]	237	2460	360	586	1242	73	218	1123	166	218	156	214
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	647	95	154	327	19	57	296	44	57	41	56
Total Analysis Volume [veh/h]	249	2589	379	617	1307	77	229	1182	175	229	164	225
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	53	0	20	58	0	21	40	0	17	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	49	49	16	54	54	17	36	36	13	32	32
g / C, Green / Cycle	0.08	0.38	0.38	0.12	0.42	0.42	0.13	0.28	0.28	0.10	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.50	0.23	0.18	0.25	0.25	0.13	0.33	0.11	0.13	0.05	0.14
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1846	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	298	1955	610	433	1506	769	237	998	446	181	887	396
d1, Uniform Delay [s]	58.61	40.45	32.88	57.00	29.65	29.69	56.22	47.06	38.22	58.50	38.79	43.03
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.12	0.15	0.11	0.12	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.18	149.55	4.71	194.66	1.83	3.59	21.69	86.22	0.56	129.54	0.10	1.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.84	1.32	0.62	1.43	0.61	0.61	0.97	1.18	0.39	1.26	0.18	0.57
d, Delay for Lane Group [s/veh]	64.79	190.00	37.59	251.66	31.49	33.28	77.91	133.28	38.78	188.04	38.89	44.61
Lane Group LOS	E	F	D	F	C	C	E	F	D	F	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.30	47.60	10.50	18.80	11.54	12.21	8.90	27.98	4.63	12.47	2.10	6.54
50th-Percentile Queue Length [ft/ln]	107.45	1190.06	262.60	469.98	288.43	305.31	222.49	699.54	115.80	311.84	52.61	163.55
95th-Percentile Queue Length [veh/ln]	7.70	70.04	15.82	29.56	17.11	17.94	13.79	40.46	8.16	19.89	3.79	10.74
95th-Percentile Queue Length [ft/ln]	192.45	1751.05	395.48	738.96	427.69	448.59	344.80	1011.59	204.04	497.17	94.69	268.41

**Movement, Approach, & Intersection Results**

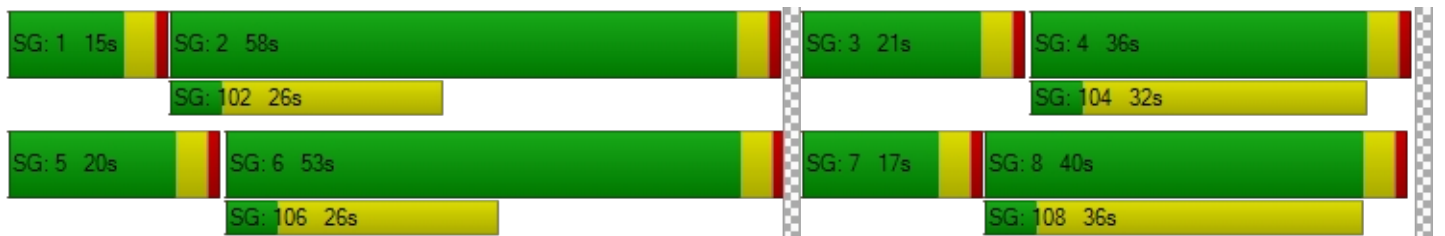
d_M, Delay for Movement [s/veh]	64.79	190.00	37.59	251.66	32.03	33.28	77.91	133.28	38.78	188.04	38.89	44.61
Movement LOS	E	F	D	F	C	C	E	F	D	F	D	D
d_A, Approach Delay [s/veh]	162.35			99.80			114.86			96.24		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	129.83											
Intersection LOS	F											
Intersection V/C	1.129											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	3.592	3.405	2.900	3.058
Crosswalk LOS	D	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	754	831	554	492
d_b, Bicycle Delay [s]	25.24	22.22	33.99	36.94
I_b,int, Bicycle LOS Score for Intersection	3.395	2.673	2.913	2.128
Bicycle LOS	C	B	C	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	1,033.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.941

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	16	58	7	34	23	2287	13	9	394	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	59	0	33	0	0	0	0	33	26	15	73	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	9	49	58	7	34	23	2320	39	24	467	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	2	13	15	2	9	6	611	10	6	123	4
Total Analysis Volume [veh/h]	63	9	52	61	7	36	24	2442	41	25	492	18
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	503	493	2507	626
Degree of Utilization, x	0.25	0.21	3.94	0.85

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.96	0.79	237.81	9.54
95th-Percentile Queue Length [ft]	24.03	19.71	5945.28	238.54
Approach Delay [s/veh]	12.47	12.23	1339.64	33.15
Approach LOS	B	B	F	D
Intersection Delay [s/veh]	1033.34			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	2,081.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	7.919

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	143	897	165	51	704	17	75	1555	1212	58	195	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	40	17	17	0	7	0	0	47	18	7	47	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	183	914	182	51	711	17	75	1602	1230	65	242	56
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	241	48	13	187	4	20	422	324	17	64	15
Total Analysis Volume [veh/h]	193	962	192	54	748	18	79	1686	1295	68	255	59
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	1347	820	3060	382
Degree of Utilization, x	3.56	2.18	7.92	1.01

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	125.08	60.53	337.60	12.18
95th-Percentile Queue Length [ft]	3127.09	1513.27	8439.95	304.51
Approach Delay [s/veh]	1176.46	560.05	3136.55	80.23
Approach LOS	F	F	F	F
Intersection Delay [s/veh]	2081.01			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.195

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	784	154	1030	655	40	328
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	7	122	17	17	49
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	791	161	1152	672	57	377
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	208	42	303	177	15	99
Total Analysis Volume [veh/h]	833	169	1213	707	60	397
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	1.74	0.01	0.00	1.19
d_M, Delay for Movement [s/veh]	0.00	0.00	352.78	0.00	10000.00	10000.00
Movement LOS	A	A	F	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	70.68	70.68	59.98	59.98
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1767.12	1767.12	1499.55	1499.55
d_A, Approach Delay [s/veh]	0.00		222.88		10000.00	
Approach LOS	A		F		F	
d_I, Intersection Delay [s/veh]	1479.11					
Intersection LOS	F					



**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	4,820.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	10.121

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	80	8	11	13	16	98	141	734	47	13	780	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	32	0	0	0	0	0	0	50	15	0	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	112	8	11	13	16	98	141	784	62	13	802	22
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	2	3	3	4	26	37	206	16	3	211	6
Total Analysis Volume [veh/h]	118	8	12	14	17	103	148	825	65	14	844	23
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	10.12	0.24	0.03	0.61	0.52	0.29	0.19	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	4820.73	4618.13	4521.95	432.48	386.23	286.75	10.65	0.00	0.00	9.76	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	18.40	18.40	18.40	9.92	9.92	9.92	0.69	0.69	0.69	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	460.05	460.05	460.05	247.98	247.98	247.98	17.27	17.27	17.27	1.39	1.39	1.39
d_A, Approach Delay [s/veh]	4783.00			314.60			1.52			0.16		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	321.28											
Intersection LOS	F											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	281.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.224

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	23	8	13	1245	343	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	58	0	0	138	56	24
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	8	13	1383	399	38
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	2	3	364	105	10
Total Analysis Volume [veh/h]	85	8	14	1456	420	40
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	1.22	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	281.69	235.66	8.28	0.00	0.00	0.00
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	7.12	7.12	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	178.02	178.02	0.96	0.96	0.00	0.00
d_A, Approach Delay [s/veh]	277.73		0.08		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	12.83					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	231.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.933

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	59	31	10	38	61	70	85	673	169	8	304	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	59	0	0	0	214	0	0	87	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	31	10	97	61	70	85	887	169	8	391	78
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	8	3	26	16	18	22	233	44	2	103	21
Total Analysis Volume [veh/h]	62	33	11	102	64	74	89	934	178	8	412	82
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	459	505	1023	596	518	577
Degree of Utilization, x	0.23	0.48	1.93	0.30	0.81	0.14

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.88	2.53	67.40	1.25	7.83	0.49
95th-Percentile Queue Length [ft]	22.10	63.18	1685.11	31.19	195.70	12.32
Approach Delay [s/veh]	13.19	16.43	378.93		29.19	
Approach LOS	B	C	F		D	
Intersection Delay [s/veh]	231.86					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	170.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.321

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						+   →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	498	2952	0	0	1459	637	0	0	0	585	7	1013
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	78	34	0	0	14	0	0	0	0	36	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	159	0	0	0	0	0	253
Total Hourly Volume [veh/h]	576	2986	0	0	1473	478	0	0	0	621	7	760
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	152	786	0	0	388	126	0	0	0	163	2	200
Total Analysis Volume [veh/h]	606	3143	0	0	1551	503	0	0	0	654	7	800
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	33	74	0	0	41	0	0	0	0	0	41	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	115	115	115	115		115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	29	70	37	37		37	37
g / C, Green / Cycle	0.25	0.61	0.32	0.32		0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.35	0.87	0.30	0.31		0.41	0.45
s, saturation flow rate [veh/h]	1714	3618	5176	1615		1790	1615
c, Capacity [veh/h]	433	2202	1665	520		576	519
d1, Uniform Delay [s]	42.97	22.48	37.76	38.41		38.99	38.99
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	193.98	194.87	10.88	32.35		134.38	194.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.40	1.43	0.93	0.97		1.27	1.41
d, Delay for Lane Group [s/veh]	236.95	217.36	48.64	70.75		173.37	233.20
Lane Group LOS	F	F	D	E		F	F
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	35.45	86.67	15.54	18.39		37.42	42.40
50th-Percentile Queue Length [ft/ln]	886.35	2166.65	388.49	459.66		935.52	1059.93
95th-Percentile Queue Length [veh/ln]	53.61	130.48	22.00	25.42		54.69	64.04
95th-Percentile Queue Length [ft/ln]	1340.14	3262.09	550.11	635.47		1367.26	1600.97

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	236.95	217.36	0.00	0.00	48.64	70.75	0.00	0.00	0.00	173.37	173.37	228.00
Movement LOS	F	F			D	E				F	F	F
d_A, Approach Delay [s/veh]	220.52			54.05			0.00			203.29		
Approach LOS	F			D			A			F		
d_I, Intersection Delay [s/veh]	169.99											
Intersection LOS	F											
Intersection V/C	1.321											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	48.84	48.84
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.350	2.870
Crosswalk LOS	F	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1218	644	0	644
d_b, Bicycle Delay [s]	8.80	26.44	57.49	26.44
I_b,int, Bicycle LOS Score for Intersection	4.653	2.777	4.132	4.388
Bicycle LOS	E	C	D	E

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	95.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.064

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	↑↑↑			↵↑↑			↵↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	2436	524	489	1591	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	112	85	0	50	0	0	0	32	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	152	0	0	0	0	0	67	0	0	0
Total Hourly Volume [veh/h]	0	2548	457	489	1641	0	582	2	202	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	671	120	129	432	0	153	1	53	0	0	0
Total Analysis Volume [veh/h]	0	2682	481	515	1727	0	613	2	213	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	50	0	33	83	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	110	110	110	110	110	110	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	46	46	29	79	23	23	
g / C, Green / Cycle	0.42	0.42	0.26	0.72	0.21	0.21	
(v / s)_i Volume / Saturation Flow Rate	0.52	0.30	0.30	0.48	0.24	0.25	
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1705	
c, Capacity [veh/h]	2162	675	452	2597	359	357	
d1, Uniform Delay [s]	32.02	26.55	40.48	8.38	43.47	43.47	
k, delay calibration	0.50	0.50	0.50	0.50	0.36	0.38	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	112.37	6.32	86.23	1.36	84.84	98.11	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.24	0.71	1.14	0.67	1.14	1.17	
d, Delay for Lane Group [s/veh]	144.38	32.87	126.71	9.74	128.31	141.58	
Lane Group LOS	F	C	F	A	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	40.93	11.39	22.87	9.96	18.12	19.34	
50th-Percentile Queue Length [ft/ln]	1023.33	284.74	571.83	249.02	452.98	483.55	
95th-Percentile Queue Length [veh/ln]	59.34	16.92	33.13	15.14	26.89	28.83	
95th-Percentile Queue Length [ft/ln]	1483.61	423.11	828.32	378.41	672.15	720.77	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	144.38	32.87	126.71	9.74	0.00	132.69	141.58	141.58	0.00	0.00	0.00
Movement LOS		F	C	F	A		F	F	F			
d_A, Approach Delay [s/veh]		127.42		36.61			135.02			0.00		
Approach LOS		F		D			F			A		
d_I, Intersection Delay [s/veh]	95.77											
Intersection LOS	F											
Intersection V/C	1.064											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	46.36	46.36
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.338	2.287
Crosswalk LOS	F	F	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	836	1437	418	0
d_b, Bicycle Delay [s]	18.61	4.36	34.40	54.99
I_b,int, Bicycle LOS Score for Intersection	3.383	3.409	3.036	4.132
Bicycle LOS	C	C	C	D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	238.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.443

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	2673	2	39	1568	234	795	11	83	1	2	121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	196	0	0	82	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	59	0	0	21	0	0	30
Total Hourly Volume [veh/h]	1	2869	1	39	1650	175	795	11	62	1	2	91
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	755	0	10	434	46	209	3	16	0	1	24
Total Analysis Volume [veh/h]	1	3020	1	41	1737	184	837	12	65	1	2	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	170
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	41	84	0	9	52	0	0	77	0	0	77	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	170	170	170	170	170	170	170	170	170
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	89	81	81	89	85	85	73	73	73
g / C, Green / Cycle	0.52	0.48	0.48	0.52	0.50	0.50	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.00	0.80	0.80	0.21	0.48	0.11	0.64	0.05	0.06
s, saturation flow rate [veh/h]	319	1900	1900	194	3618	1615	1318	1654	1621
c, Capacity [veh/h]	100	903	903	127	1806	806	541	709	717
d1, Uniform Delay [s]	37.14	44.59	44.59	39.88	41.00	24.06	51.82	29.08	29.53
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	307.38	307.47	6.66	13.88	0.66	255.88	0.07	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	1.67	1.67	0.32	0.96	0.23	1.55	0.11	0.14
d, Delay for Lane Group [s/veh]	37.18	351.97	352.06	46.54	54.89	24.72	307.70	29.15	29.62
Lane Group LOS	D	F	F	D	D	C	F	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.02	114.84	114.85	1.06	38.19	4.46	61.76	1.96	2.56
50th-Percentile Queue Length [ft/ln]	0.52	2870.95	2871.16	26.44	954.85	111.55	1543.94	48.93	63.89
95th-Percentile Queue Length [veh/ln]	0.04	177.28	177.30	1.90	48.33	7.93	95.67	3.52	4.60
95th-Percentile Queue Length [ft/ln]	0.93	4432.11	4432.58	47.59	1208.23	198.16	2391.72	88.08	115.00

**Movement, Approach, & Intersection Results**

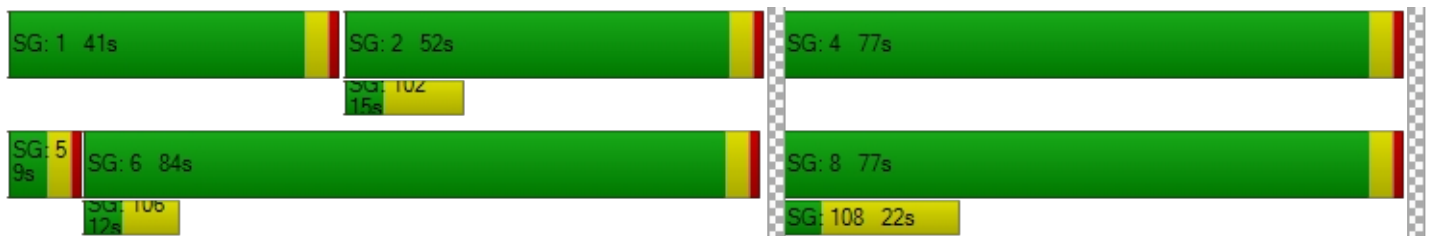
d_M, Delay for Movement [s/veh]	37.18	352.01	352.06	46.54	54.89	24.72	307.70	29.15	29.15	29.62	29.62	29.62
Movement LOS	D	F	F	D	D	C	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	351.91			51.88			284.23			29.62		
Approach LOS	F			D			F			C		
d_I, Intersection Delay [s/veh]	238.12											
Intersection LOS	F											
Intersection V/C	1.443											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	76.24	0.00	76.24	76.24
I_p,int, Pedestrian LOS Score for Intersection	3.279	0.000	2.386	1.907
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	565	859	859
d_b, Bicycle Delay [s]	23.82	43.78	27.67	27.67
I_b,int, Bicycle LOS Score for Intersection	4.054	3.227	3.102	1.772
Bicycle LOS	D	C	C	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	223.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.401

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	1800	66	575	966	151	396	571	124	27	204	478
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	196	0	0	82	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	38	0	0	31	0	0	120
Total Hourly Volume [veh/h]	82	1996	49	575	1048	113	396	571	93	27	204	358
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	525	13	151	276	30	104	150	24	7	54	94
Total Analysis Volume [veh/h]	86	2101	52	605	1103	119	417	601	98	28	215	377
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	175
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	64	0	46	95	0	33	56	0	9	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	175	175	175	175	175	175	175	175	175	175	175	175
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	60	60	42	91	91	29	53	53	4	28	28
g / C, Green / Cycle	0.06	0.34	0.34	0.24	0.52	0.52	0.17	0.30	0.30	0.02	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.05	0.57	0.57	0.35	0.32	0.33	0.24	0.18	0.06	0.02	0.11	0.23
s, saturation flow rate [veh/h]	1714	1900	1884	1714	1900	1837	1714	3427	1530	1714	1900	1615
c, Capacity [veh/h]	103	652	647	410	993	959	284	1042	465	37	304	258
d1, Uniform Delay [s]	81.29	57.42	57.42	66.50	29.45	29.83	72.92	51.34	45.24	85.04	69.56	73.44
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.20	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.57	299.66	305.96	226.32	2.89	3.19	228.19	0.51	0.22	25.43	5.51	226.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.83	1.65	1.66	1.47	0.62	0.63	1.47	0.58	0.21	0.75	0.71	1.46
d, Delay for Lane Group [s/veh]	96.86	357.08	363.38	292.81	32.34	33.02	301.11	51.85	45.46	110.47	75.07	300.13
Lane Group LOS	F	F	F	F	C	C	F	D	D	F	E	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.32	83.12	83.55	44.17	19.20	19.34	30.86	11.34	3.27	1.54	9.66	27.94
50th-Percentile Queue Length [ft/ln]	108.00	2077.90	2088.66	1104.29	479.93	483.50	771.51	283.53	81.66	38.38	241.53	698.52
95th-Percentile Queue Length [veh/ln]	7.73	126.78	127.70	66.49	26.38	26.55	46.96	16.86	5.88	2.76	14.76	42.80
95th-Percentile Queue Length [ft/ln]	193.22	3169.57	3192.49	1662.13	659.57	663.81	1174.02	421.60	146.99	69.08	368.97	1070.08

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	96.86	360.15	363.38	292.81	32.64	33.02	301.11	51.85	45.46	110.47	75.07	300.13
Movement LOS	F	F	F	F	C	C	F	D	D	F	E	F
d_A, Approach Delay [s/veh]	350.11			118.82			144.43			213.52		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	223.12											
Intersection LOS	F											
Intersection V/C	1.401											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	78.69	78.69	78.69	78.69
I_p,int, Pedestrian LOS Score for Intersection	3.042	3.332	2.894	2.983
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	1040	595	320
d_b, Bicycle Delay [s]	37.75	20.13	43.19	61.70
I_b,int, Bicycle LOS Score for Intersection	3.421	3.098	2.506	2.170
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	245.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.457

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	139	1248	32	76	779	78	598	375	446	26	131	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	147	0	0	60	22	50	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	25	0	0	112	0	0	17
Total Hourly Volume [veh/h]	139	1395	24	76	839	75	648	375	334	26	131	51
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	367	6	20	221	20	171	99	88	7	34	13
Total Analysis Volume [veh/h]	146	1468	25	80	883	79	682	395	352	27	138	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	42	0	10	38	0	0	98	0	0	98	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	150	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	38	38	6	34	34	94	94
g / C, Green / Cycle	0.07	0.25	0.25	0.04	0.23	0.23	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.09	0.39	0.39	0.05	0.26	0.26	1.02	0.13
s, saturation flow rate [veh/h]	1714	1900	1889	1714	1900	1846	1407	1696
c, Capacity [veh/h]	114	483	480	69	432	420	916	1088
d1, Uniform Delay [s]	70.00	55.93	55.93	72.00	57.93	57.93	30.96	11.94
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	138.80	256.62	258.55	103.47	83.20	83.83	257.67	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.28	1.55	1.55	1.17	1.13	1.13	1.56	0.20
d, Delay for Lane Group [s/veh]	208.79	312.55	314.48	175.47	141.13	141.76	288.63	12.03
Lane Group LOS	F	F	F	F	F	F	F	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.82	52.70	52.65	4.62	26.41	25.72	98.98	3.07
50th-Percentile Queue Length [ft/ln]	220.44	1317.62	1316.33	115.61	660.15	643.12	2474.51	76.84
95th-Percentile Queue Length [veh/ln]	14.72	79.69	79.68	8.32	37.31	36.46	153.93	5.53
95th-Percentile Queue Length [ft/ln]	368.11	1992.17	1991.97	208.10	932.79	911.50	3848.22	138.31

**Movement, Approach, & Intersection Results**

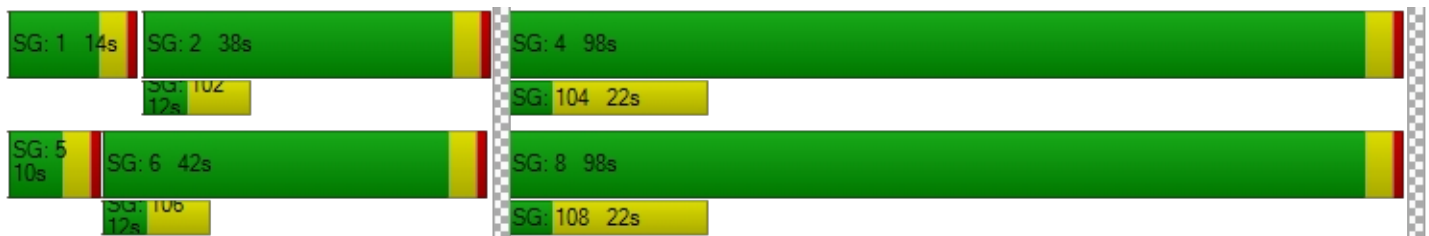
d_M, Delay for Movement [s/veh]	208.79	313.50	314.48	175.47	141.41	141.76	288.63	288.63	288.63	12.03	12.03	12.03
Movement LOS	F	F	F	F	F	F	F	F	F	B	B	B
d_A, Approach Delay [s/veh]	304.18			144.06			288.63			12.03		
Approach LOS	F			F			F			B		
d_I, Intersection Delay [s/veh]	245.73											
Intersection LOS	F											
Intersection V/C	1.457											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27	66.27
I_p,int, Pedestrian LOS Score for Intersection	2.964	3.972	2.840	2.248
Crosswalk LOS	C	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	507	453	1253	1253
d_b, Bicycle Delay [s]	41.81	44.85	10.45	10.45
I_b,int, Bicycle LOS Score for Intersection	2.918	2.440	4.102	1.949
Bicycle LOS	C	B	D	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	362.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.794

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	282	1356	249	135	1241	47	39	329	201	125	81	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	47	0	0	0	0	60	147	17	109	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	62	0	0	27	0	0	78	0	0	19
Total Hourly Volume [veh/h]	329	1356	187	135	1241	80	186	346	232	125	88	57
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	357	49	36	327	21	49	91	61	33	23	15
Total Analysis Volume [veh/h]	346	1427	197	142	1306	84	196	364	244	132	93	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	21	0	9	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	17	17	5	15	15	26	26	26	26
g / C, Green / Cycle	0.12	0.28	0.28	0.08	0.25	0.25	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.20	0.43	0.45	0.08	0.37	0.37	3.22	0.15	2.09	0.04
s, saturation flow rate [veh/h]	1714	1900	1822	1714	1900	1860	174	1615	108	1615
c, Capacity [veh/h]	204	539	516	148	476	466	156	697	141	697
d1, Uniform Delay [s]	26.57	21.61	21.61	27.47	22.61	22.61	18.91	11.48	22.21	10.13
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	317.75	237.95	266.71	26.26	222.81	227.52	1185.50	0.30	297.58	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.70	1.51	1.57	0.96	1.47	1.48	3.60	0.35	1.59	0.09
d, Delay for Lane Group [s/veh]	344.32	259.56	288.32	53.73	245.41	250.12	1204.41	11.78	319.78	10.18
Lane Group LOS	F	F	F	D	F	F	F	B	F	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	20.75	42.43	44.82	3.00	35.59	35.46	52.35	1.96	13.63	0.42
50th-Percentile Queue Length [ft/ln]	518.84	1060.86	1120.46	74.96	889.86	886.38	1308.84	48.89	340.70	10.54
95th-Percentile Queue Length [veh/ln]	33.43	65.18	69.41	5.40	54.66	54.59	90.89	3.52	24.53	0.76
95th-Percentile Queue Length [ft/ln]	835.67	1629.42	1735.28	134.94	1366.48	1364.63	2272.37	88.00	613.25	18.97

**Movement, Approach, & Intersection Results**

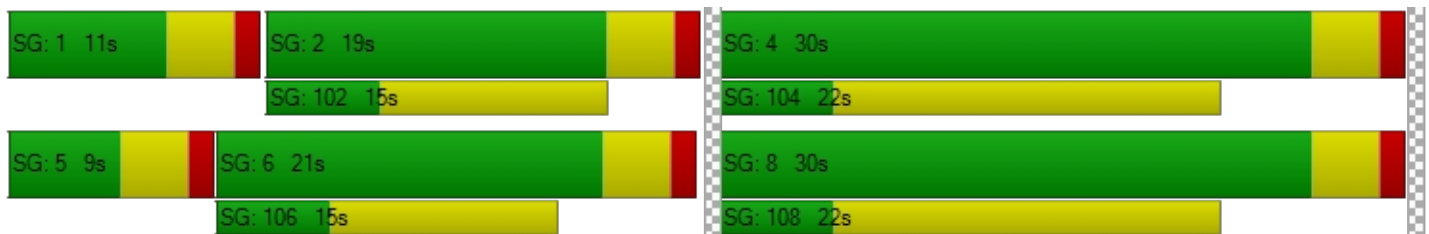
d_M, Delay for Movement [s/veh]	344.32	271.96	288.32	53.73	247.60	250.12	1204.41	1204.41	11.78	319.78	319.78	10.18
Movement LOS	F	F	F	D	F	F	F	F	B	F	F	B
d_A, Approach Delay [s/veh]	286.30			229.77			842.47			254.60		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	362.87											
Intersection LOS	F											
Intersection V/C	3.794											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.76	21.76	21.76	21.76
I_p,int, Pedestrian LOS Score for Intersection	3.296	3.234	2.497	2.295
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	565	499	864	864
d_b, Bicycle Delay [s]	15.48	16.95	9.70	9.70
I_b,int, Bicycle LOS Score for Intersection	3.236	2.846	3.015	2.061
Bicycle LOS	C	C	C	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	71.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.015

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	549	1796	20	73	1316	239	168	74	96	18	45	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	47	0	0	109	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	60	0	0	24	0	0	4
Total Hourly Volume [veh/h]	549	1843	15	73	1425	179	168	74	72	18	45	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	485	4	19	375	47	44	19	19	5	12	3
Total Analysis Volume [veh/h]	578	1940	16	77	1500	188	177	78	76	19	47	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	40	79	0	10	49	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	75	75	6	45	45	22	22
g / C, Green / Cycle	0.31	0.65	0.65	0.05	0.39	0.39	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.34	0.51	0.52	0.04	0.45	0.46	0.22	0.05
s, saturation flow rate [veh/h]	1714	1900	1895	1714	1900	1828	1510	1658
c, Capacity [veh/h]	536	1237	1233	91	743	715	338	357
d1, Uniform Delay [s]	39.49	14.43	14.47	53.97	35.00	35.00	47.88	39.21
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.33	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	61.37	5.21	5.29	18.72	80.16	92.32	35.46	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.08	0.79	0.79	0.85	1.14	1.17	0.98	0.22
d, Delay for Lane Group [s/veh]	100.86	19.64	19.77	72.68	115.16	127.32	83.34	39.51
Lane Group LOS	F	B	B	E	F	F	F	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	24.02	18.41	18.48	2.68	36.75	37.76	12.94	1.90
50th-Percentile Queue Length [ft/ln]	600.60	460.13	461.96	66.98	918.64	944.04	323.54	47.45
95th-Percentile Queue Length [veh/ln]	33.65	25.44	25.53	4.82	51.23	53.32	18.84	3.42
95th-Percentile Queue Length [ft/ln]	841.26	636.02	638.21	120.56	1280.81	1332.95	471.04	85.42



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	100.86	19.70	19.77	72.68	120.43	127.32	83.34	83.34	83.34	39.51	39.51	39.51
Movement LOS	F	B	B	E	F	F	F	F	F	D	D	D
d_A, Approach Delay [s/veh]	38.21			119.08			83.34			39.51		
Approach LOS	D			F			F			D		
d_I, Intersection Delay [s/veh]	71.73											
Intersection LOS	E											
Intersection V/C	1.015											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	48.84			48.84			48.84			48.84		
I_p,int, Pedestrian LOS Score for Intersection	3.158			3.422			2.361			1.860		
Crosswalk LOS	C			C			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1305			783			383			383		
d_b, Bicycle Delay [s]	6.95			21.29			37.59			37.59		
I_b,int, Bicycle LOS Score for Intersection	3.654			3.065			2.145			1.695		
Bicycle LOS	D			C			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	119.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.169

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	630	1853	14	52	1323	78	109	22	566	29	22	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	0	93	17	7	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	24	0	0	142	0	0	4
Total Hourly Volume [veh/h]	630	1892	10	52	1416	71	116	22	424	29	22	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	498	3	14	373	19	31	6	112	8	6	3
Total Analysis Volume [veh/h]	663	1992	11	55	1491	75	122	23	446	31	23	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	40	71	0	9	40	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	67	67	5	36	36	31	31
g / C, Green / Cycle	0.31	0.59	0.59	0.04	0.31	0.31	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.39	0.53	0.53	0.03	0.41	0.42	0.37	0.08
s, saturation flow rate [veh/h]	1714	1900	1896	1714	1900	1868	1618	872
c, Capacity [veh/h]	536	1111	1109	71	595	585	474	281
d1, Uniform Delay [s]	39.49	20.97	21.01	54.58	39.48	39.48	42.91	31.96
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	121.52	11.73	11.91	16.42	156.71	161.11	127.73	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.24	0.90	0.90	0.78	1.32	1.33	1.25	0.24
d, Delay for Lane Group [s/veh]	161.00	32.70	32.92	71.00	196.20	200.60	170.64	32.40
Lane Group LOS	F	C	C	E	F	F	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	32.99	25.58	25.67	1.90	42.39	42.40	30.52	1.49
50th-Percentile Queue Length [ft/ln]	824.67	639.49	641.86	47.49	1059.70	1059.88	763.06	37.26
95th-Percentile Queue Length [veh/ln]	48.12	33.87	33.98	3.42	62.35	62.56	44.80	2.68
95th-Percentile Queue Length [ft/ln]	1202.99	846.85	849.60	85.48	1558.71	1563.96	1119.88	67.07

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	161.00	32.81	32.92	71.00	198.27	200.60	170.64	170.64	170.64	32.40	32.40	32.40
Movement LOS	F	C	C	E	F	F	F	F	F	C	C	C
d_A, Approach Delay [s/veh]	64.69			194.06			170.64			32.40		
Approach LOS	E			F			F			C		
d_I, Intersection Delay [s/veh]	119.31											
Intersection LOS	F											
Intersection V/C	1.169											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	48.84			48.84			48.84			48.84		
I_p,int, Pedestrian LOS Score for Intersection	3.295			3.257			2.670			1.814		
Crosswalk LOS	C			C			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1165			626			539			539		
d_b, Bicycle Delay [s]	10.01			27.12			30.67			30.67		
I_b,int, Bicycle LOS Score for Intersection	3.762			2.917			2.769			1.678		
Bicycle LOS	D			C			C			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	279.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.752

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	1556	399	408	941	9	13	9	5	880	17	1001
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	39	0	0	93	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	100	0	0	2	0	0	1	0	0	250
Total Hourly Volume [veh/h]	9	1595	299	408	1034	7	13	9	4	880	17	751
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	420	79	107	272	2	3	2	1	232	4	198
Total Analysis Volume [veh/h]	9	1679	315	429	1088	7	14	9	4	926	18	791
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	36	37	0	20	21	0	0	53	0	0	53	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	33	33	16	48	48	49	49	49
g / C, Green / Cycle	0.01	0.30	0.30	0.15	0.43	0.43	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.01	0.52	0.55	0.25	0.29	0.29	0.38	0.95	0.49
s, saturation flow rate [veh/h]	1714	1900	1800	1714	1900	1896	71	996	1615
c, Capacity [veh/h]	20	571	541	250	826	824	81	507	717
d1, Uniform Delay [s]	53.96	38.45	38.45	46.96	24.69	24.70	27.28	33.72	30.56
k, delay calibration	0.11	0.50	0.50	0.39	0.50	0.50	0.36	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.13	342.70	386.41	334.31	4.18	4.20	7.75	394.76	65.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.44	1.75	1.84	1.71	0.66	0.66	0.33	1.86	1.10
d, Delay for Lane Group [s/veh]	68.10	381.15	424.87	381.26	28.87	28.90	35.03	428.48	95.76
Lane Group LOS	E	F	F	F	C	C	D	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	69.48	72.38	30.04	12.04	12.03	0.56	69.68	31.17
50th-Percentile Queue Length [ft/ln]	8.19	1736.90	1809.40	751.11	300.96	300.66	14.01	1741.88	779.17
95th-Percentile Queue Length [veh/ln]	0.59	107.60	113.11	47.21	17.73	17.71	1.01	112.95	43.31
95th-Percentile Queue Length [ft/ln]	14.74	2690.01	2827.82	1180.18	443.21	442.85	25.22	2823.81	1082.73

**Movement, Approach, & Intersection Results**

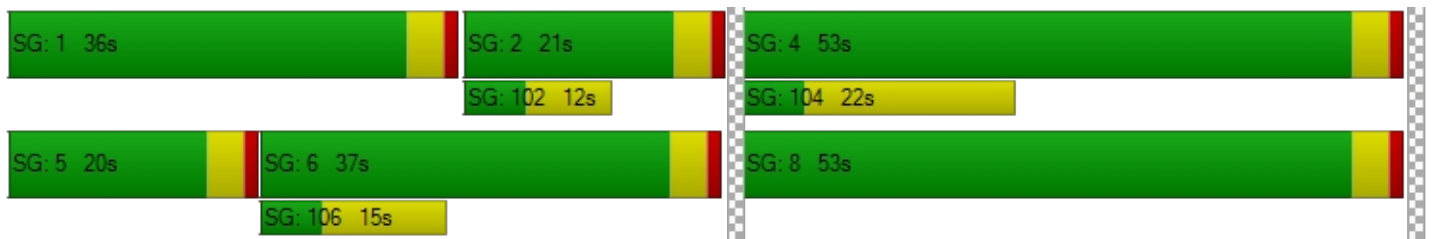
d_M, Delay for Movement [s/veh]	68.10	398.91	424.87	381.26	28.89	28.90	35.03	35.03	35.03	428.48	428.48	95.76
Movement LOS	E	F	F	F	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	401.51			128.08			35.03			276.79		
Approach LOS	F			F			D			F		
d_I, Intersection Delay [s/veh]	279.94											
Intersection LOS	F											
Intersection V/C	1.752											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.36	46.36	46.36
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.164	1.759	3.229
Crosswalk LOS	F	C	A	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	309	891	891
d_b, Bicycle Delay [s]	26.94	39.31	16.91	16.91
I_b,int, Bicycle LOS Score for Intersection	3.295	2.819	1.606	4.835
Bicycle LOS	C	C	A	E

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	133.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.172

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	68	1187	807	651	1113	58	40	50	23	401	158	806
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	0	68	25	0	0	0	0	0	0	29
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	202	0	0	15	0	0	6	0	0	209
Total Hourly Volume [veh/h]	68	1198	605	719	1138	43	40	50	17	401	158	626
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	315	159	189	299	11	11	13	4	106	42	165
Total Analysis Volume [veh/h]	72	1261	637	757	1198	45	42	53	18	422	166	659
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	165
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	12	56	0	53	97	0	0	10	0	0	46	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	165	165	165	165	165	165	165	165	165
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	52	52	49	93	93	6	6	42
g / C, Green / Cycle	0.05	0.31	0.31	0.30	0.56	0.56	0.04	0.04	0.25
(v / s)_i Volume / Saturation Flow Rate	0.04	0.35	0.39	0.42	0.33	0.03	0.02	0.04	0.32
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1819	1834
c, Capacity [veh/h]	88	1138	508	537	2036	909	68	68	467
d1, Uniform Delay [s]	77.77	56.54	56.54	58.02	23.58	16.23	78.27	79.41	61.50
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.69	61.37	129.53	195.57	1.26	0.10	9.00	63.38	133.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.82	1.11	1.25	1.41	0.59	0.05	0.62	1.05	1.26
d, Delay for Lane Group [s/veh]	94.46	117.91	186.07	253.60	24.84	16.33	87.27	142.80	194.84
Lane Group LOS	F	F	F	F	C	B	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.46	33.38	39.43	51.55	15.70	0.82	1.94	4.10	36.87
50th-Percentile Queue Length [ft/ln]	86.52	834.59	985.69	1288.73	392.61	20.48	48.57	102.58	921.75
95th-Percentile Queue Length [veh/ln]	6.23	45.85	56.96	76.38	22.20	1.47	3.50	7.39	53.26
95th-Percentile Queue Length [ft/ln]	155.74	1146.18	1424.05	1909.62	555.08	36.87	87.43	184.64	1331.41

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	94.46	117.91	186.07	253.60	24.84	16.33	87.27	142.80	142.80	194.84	194.84	0.00
Movement LOS	F	F	F	F	C	B	F	F	F	F	F	
d_A, Approach Delay [s/veh]	139.09			111.23			122.16			194.84		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	133.77											
Intersection LOS	F											
Intersection V/C	1.172											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	630			1127			73			509		
d_b, Bicycle Delay [s]	38.69			15.71			76.61			45.84		
I_b,int, Bicycle LOS Score for Intersection	3.352			3.222			1.756			2.530		
Bicycle LOS	C			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	87.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.191

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	16	7	460	15	828	565	641	9	8	721	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	68	0	0	29	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	207	0	0	2	0	0	100
Total Hourly Volume [veh/h]	13	16	5	460	15	621	565	709	7	8	750	301
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	1	121	4	163	149	187	2	2	197	79
Total Analysis Volume [veh/h]	14	17	5	484	16	654	595	746	7	8	789	317
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	21	31	0	9	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	26	26	17	31	31	1	15	15
g / C, Green / Cycle	0.37	0.37	0.37	0.24	0.45	0.45	0.01	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.16	0.64	0.40	0.33	0.21	0.00	0.00	0.22	0.20
s, saturation flow rate [veh/h]	224	776	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	155	391	603	440	1609	718	19	769	343
d1, Uniform Delay [s]	17.81	25.35	21.95	26.51	13.60	10.84	34.42	27.57	27.01
k, delay calibration	0.50	0.50	0.50	0.28	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.49	144.19	61.93	167.44	0.21	0.01	13.36	22.19	10.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.23	1.28	1.09	1.35	0.46	0.01	0.41	1.03	0.92
d, Delay for Lane Group [s/veh]	21.29	169.53	83.88	193.95	13.81	10.85	47.78	49.76	37.48
Lane Group LOS	C	F	F	F	B	B	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.49	22.12	19.33	27.32	3.76	0.06	0.20	8.43	5.89
50th-Percentile Queue Length [ft/ln]	12.31	553.10	483.21	683.02	93.92	1.41	5.09	210.83	147.37
95th-Percentile Queue Length [veh/ln]	0.89	34.46	28.02	41.76	6.76	0.10	0.37	13.37	9.88
95th-Percentile Queue Length [ft/ln]	22.15	861.47	700.42	1043.98	169.06	2.55	9.16	334.22	246.92

**Movement, Approach, & Intersection Results**

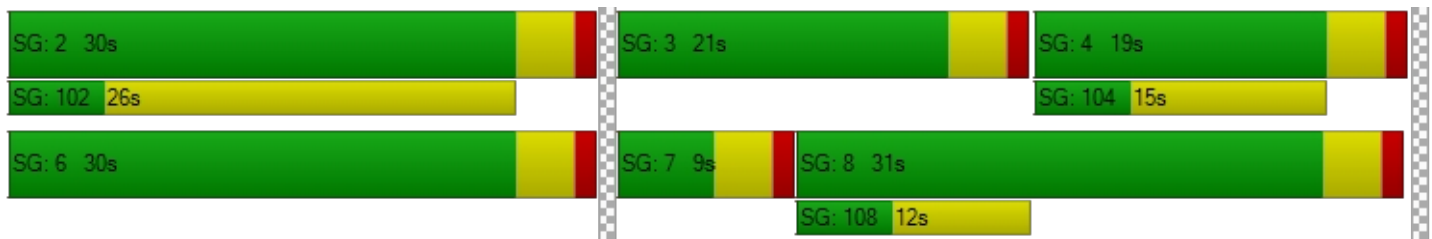
d_M, Delay for Movement [s/veh]	21.29	21.29	21.29	169.53	169.53	83.88	193.95	13.81	10.85	47.78	49.76	37.48
Movement LOS	C	C	C	F	F	F	F	B	B	D	F	D
d_A, Approach Delay [s/veh]	21.29			120.99			93.31			46.25		
Approach LOS	C			F			F			D		
d_I, Intersection Delay [s/veh]	86.99											
Intersection LOS	F											
Intersection V/C	1.191											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.59	26.59	26.59	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.741	3.000	2.954	0.000
Crosswalk LOS	A	C	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	743	743	771	428
d_b, Bicycle Delay [s]	13.84	13.84	13.21	21.61
I_b,int, Bicycle LOS Score for Intersection	1.622	3.805	2.673	2.561
Bicycle LOS	A	D	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	161.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.170

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	80	1117	100	10	1283	4	7	46	329	368	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	68	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	1	0	0	82	0	0	13
Total Hourly Volume [veh/h]	80	1146	75	10	1351	3	7	46	247	368	69	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	302	20	3	356	1	2	12	65	97	18	10
Total Analysis Volume [veh/h]	84	1206	79	11	1422	3	7	48	260	387	73	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	230
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	136	0	9	131	0	0	38	0	0	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	230	230	230	230	230	230	230	230	230	230
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	134	134	3	127	127	34	34	43	43
g / C, Green / Cycle	0.04	0.58	0.58	0.01	0.55	0.55	0.15	0.15	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.05	0.63	0.05	0.01	0.75	0.00	0.03	0.16	0.21	0.06
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	1810	1787
c, Capacity [veh/h]	79	1109	943	20	1048	890	281	240	338	334
d1, Uniform Delay [s]	109.97	47.85	20.94	113.14	51.59	23.19	85.83	97.88	93.49	81.20
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	65.87	53.94	0.17	21.67	167.13	0.01	0.34	81.89	94.12	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.07	1.09	0.08	0.55	1.36	0.00	0.20	1.08	1.14	0.34
d, Delay for Lane Group [s/veh]	175.85	101.78	21.11	134.82	218.72	23.19	86.17	179.78	187.61	81.80
Lane Group LOS	F	F	C	F	F	C	F	F	F	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	6.24	79.74	2.01	0.79	108.77	0.08	2.95	19.99	29.24	6.03
50th-Percentile Queue Length [ft/ln]	155.89	1993.44	50.31	19.68	2719.16	1.98	73.63	499.84	731.07	150.74
95th-Percentile Queue Length [veh/ln]	10.52	101.60	3.62	1.42	156.72	0.14	5.30	28.43	40.96	10.06
95th-Percentile Queue Length [ft/ln]	262.93	2539.97	90.56	35.43	3917.88	3.56	132.53	710.64	1024.04	251.42

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	175.85	101.78	21.11	134.82	218.72	23.19	86.17	86.17	179.78	187.61	81.80	81.80
Movement LOS	F	F	C	F	F	C	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	101.67			217.67			163.43			163.54		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	161.60											
Intersection LOS	F											
Intersection V/C	1.170											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	106.16	106.16	106.16	106.16
I_p,int, Pedestrian LOS Score for Intersection	3.075	2.873	2.283	2.223
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1148	1104	296	374
d_b, Bicycle Delay [s]	20.87	23.06	83.50	76.01
I_b,int, Bicycle LOS Score for Intersection	3.860	3.931	2.215	2.408
Bicycle LOS	D	D	B	B

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.608

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	22	1046	228	97	1729	0	0	12	73	206	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	68	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	57	0	0	0	0	0	18	0	0	11
Total Hourly Volume [veh/h]	22	1075	171	97	1797	0	0	12	55	206	5	34
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	283	45	26	473	0	0	3	14	54	1	9
Total Analysis Volume [veh/h]	23	1132	180	102	1892	0	0	13	58	217	5	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	23	23	10	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	51	51	6	55	55	4	4	8	8	8
g / C, Green / Cycle	0.03	0.60	0.60	0.07	0.65	0.65	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.31	0.11	0.06	0.50	0.50	0.01	0.04	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1813	1615
c, Capacity [veh/h]	47	2170	969	129	1226	1226	97	82	163	163	145
d1, Uniform Delay [s]	40.92	9.93	7.68	38.92	10.68	10.68	38.64	39.80	37.58	37.58	36.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.51	0.90	0.42	10.11	4.75	4.75	0.62	10.51	4.93	4.91	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.49	0.52	0.19	0.79	0.77	0.77	0.13	0.71	0.68	0.68	0.25
d, Delay for Lane Group [s/veh]	48.43	10.83	8.10	49.02	15.43	15.43	39.26	50.31	42.51	42.49	36.96
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.57	5.66	1.44	2.43	11.90	11.90	0.27	1.42	2.43	2.43	0.72
50th-Percentile Queue Length [ft/ln]	14.21	141.44	35.96	60.63	297.57	297.57	6.82	35.43	60.64	60.72	18.05
95th-Percentile Queue Length [veh/ln]	1.02	9.56	2.59	4.37	17.56	17.56	0.49	2.55	4.37	4.37	1.30
95th-Percentile Queue Length [ft/ln]	25.57	238.96	64.73	109.13	439.02	439.02	12.28	63.78	109.14	109.30	32.48

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	48.43	10.83	8.10	49.02	15.43	15.43	39.26	39.26	50.31	42.50	42.49	36.96
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	11.11			17.15			48.29			41.73		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.28											
Intersection LOS	B											
Intersection V/C	0.608											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			34.03			0.00			34.03		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.917			0.000			2.297		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	447			470			517			517		
d_b, Bicycle Delay [s]	25.67			24.90			23.39			23.39		
I_b,int, Bicycle LOS Score for Intersection	2.708			3.205			1.706			2.003		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.724

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	213	659	0	0	1851	170	0	0	0	71	0	739
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	68	0	0	0	0	0	0	29
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	43	0	0	0	0	0	192
Total Hourly Volume [veh/h]	213	659	0	0	1919	127	0	0	0	71	0	576
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	173	0	0	505	33	0	0	0	19	0	152
Total Analysis Volume [veh/h]	224	694	0	0	2020	134	0	0	0	75	0	606
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	15	24	0	0	9	0	0	0	0	56	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	80	80	80		80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	11	68	53		4
g / C, Green / Cycle	0.14	0.84	0.66		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.19	0.56		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	250	3053	2372		102
d1, Uniform Delay [s]	33.94	1.21	10.76		37.20
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	10.80	0.17	4.11		9.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.90	0.23	0.85		0.74
d, Delay for Lane Group [s/veh]	44.74	1.38	14.86		47.04
Lane Group LOS	D	A	B		D
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	4.91	0.32	12.22		1.70
50th-Percentile Queue Length [ft/ln]	122.85	8.02	305.57		42.39
95th-Percentile Queue Length [veh/ln]	8.55	0.58	17.96		3.05
95th-Percentile Queue Length [ft/ln]	213.73	14.43	448.91		76.30

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.74	1.38	0.00	0.00	14.86	0.00	0.00	0.00	0.00	0.00	47.04	0.00	0.00
Movement LOS	D	A			B						D		
d_A, Approach Delay [s/veh]	11.96			14.86			0.00			47.04			
Approach LOS	B			B			A			D			
d_I, Intersection Delay [s/veh]	14.78												
Intersection LOS	B												
Intersection V/C	0.724												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			31.53		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.960		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	500			125			0			1299		
d_b, Bicycle Delay [s]	22.52			35.18			40.02			4.91		
I_b,int, Bicycle LOS Score for Intersection	2.317			3.226			4.132			1.560		
Bicycle LOS	B			C			D			A		

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	55.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.943

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			←↑↑			↑↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	976	163	512	1954	0	120	0	1165	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	68	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	41	0	0	0	0	0	291	0	0	0
Total Hourly Volume [veh/h]	0	976	122	580	1954	0	120	0	874	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	257	32	153	514	0	32	0	230	0	0	0
Total Analysis Volume [veh/h]	0	1027	128	611	2057	0	126	0	920	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	29	0	30	59	0	31	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	25	26	55	27	27	
g / C, Green / Cycle	0.28	0.29	0.61	0.30	0.30	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.34	0.57	0.07	0.32	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	1005	523	2211	543	857	
d1, Uniform Delay [s]	32.53	32.03	15.78	23.73	31.54	
k, delay calibration	0.50	0.46	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	33.92	93.71	8.53	0.22	38.53	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.02	1.17	0.93	0.23	1.07	
d, Delay for Lane Group [s/veh]	66.45	125.74	24.31	23.94	70.07	
Lane Group LOS	F	F	C	C	F	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	15.30	24.57	18.93	2.01	13.55	
50th-Percentile Queue Length [ft/ln]	382.61	614.17	473.29	50.33	338.63	
95th-Percentile Queue Length [veh/ln]	22.01	35.85	26.07	3.62	20.42	
95th-Percentile Queue Length [ft/ln]	550.13	896.25	651.68	90.60	510.41	



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	66.45	0.00	125.74	24.31	0.00	23.94	0.00	70.07	0.00	0.00	0.00
Movement LOS		F		F	C		C		F			
d_A, Approach Delay [s/veh]	66.45			47.54			64.51			0.00		
Approach LOS	E			D			E			A		
d_I, Intersection Delay [s/veh]	55.38											
Intersection LOS	E											
Intersection V/C	0.943											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			36.47		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			2.021		
Crosswalk LOS	F			F			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	555			1222			600			0		
d_b, Bicycle Delay [s]	23.49			6.82			22.07			45.02		
I_b,int, Bicycle LOS Score for Intersection	2.407			3.761			1.560			4.132		
Bicycle LOS	B			D			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	26	0	0	29	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	75	0	7	33	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	101	0	7	62	0	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	0	2	16	0	4
Total Analysis Volume [veh/h]	106	0	7	65	0	18
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.44	0.00	9.57	8.87
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.36	0.36	1.45	1.45
d_A, Approach Delay [s/veh]	0.00		0.72		8.87	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.08					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.100

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	26	0	0	29	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	58	0	7	26	0	0	0	0	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	84	0	7	55	0	0	0	0	0	0	17
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	22	0	2	14	0	0	0	0	0	0	4
Total Analysis Volume [veh/h]	0	88	0	7	58	0	0	0	0	0	0	17
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.10	0.00	0.01	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.37	9.56	8.76	9.42	9.38	8.68	7.25	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.33	0.33	0.33	0.24	0.24	0.24	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.34	8.34	8.34	5.93	5.93	5.93	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.56			9.39			2.42			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.54											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	26	0	0	29	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	50	26	4	22	0	0	0	0	11	0	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	76	26	4	51	0	0	0	0	11	0	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	20	7	1	13	0	0	0	0	3	0	2
Total Analysis Volume [veh/h]	0	80	27	4	54	0	0	0	0	12	0	9
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	100

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	7.30	0.00	0.00	7.41	0.00	0.00	9.50	9.96	8.53	9.52	9.98	8.82
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.20	0.20	0.20	0.00	0.00	0.00	1.85	1.85	1.85
d_A, Approach Delay [s/veh]	0.00			0.51			9.33			9.22		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.20											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	80.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.277

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1205	1974	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	74	33	0	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	1279	2007	0	0	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	337	528	0	0	4
Total Analysis Volume [veh/h]	7	1346	2113	0	0	18
Pedestrian Volume [ped/h]	0		0		0	



**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.01	0.02	0.00	0.00	0.28
d_M, Delay for Movement [s/veh]	19.08	0.00	0.00	0.00	0.00	80.56
Movement LOS	C	A	A	A		F
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.00	0.99
95th-Percentile Queue Length [ft/ln]	2.05	2.05	0.00	0.00	0.00	24.65
d_A, Approach Delay [s/veh]	0.10		0.00		80.56	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	26.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.174

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1205	0	0	1974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	0	15	37	0	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1227	0	15	2011	0	33
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	323	0	4	529	0	9
Total Analysis Volume [veh/h]	1292	0	16	2117	0	35
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.02	0.00	0.17
d_M, Delay for Movement [s/veh]	0.00	0.00	11.83	0.00	0.00	26.63
Movement LOS	A	A	B	A		D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.09	0.00	0.61
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.27	2.27	0.00	15.35
d_A, Approach Delay [s/veh]	0.00		0.09		26.63	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	D					

**Intersection Level Of Service Report**  
**Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	119.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.237

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑			← ↑			↑			↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1205	0	0	1974	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	21	21	0	51	4	8	0	35	52	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	1	0	0	9	0	0	0
Total Hourly Volume [veh/h]	14	1226	16	0	2025	3	8	0	26	52	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	323	4	0	533	1	2	0	7	14	0	0
Total Analysis Volume [veh/h]	15	1291	17	0	2132	3	8	0	27	55	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	118	0	9	118	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	131	0	128	7	7
g / C, Green / Cycle	0.02	0.87	0.00	0.86	0.05	0.05
(v / s)_i Volume / Saturation Flow Rate	0.01	0.73	0.00	1.19	0.02	0.04
s, saturation flow rate [veh/h]	1714	1796	1714	1800	1705	1330
c, Capacity [veh/h]	27	1565	0	1540	112	113
d1, Uniform Delay [s]	73.31	4.58	0.00	10.82	69.40	70.86
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	17.21	5.46	0.00	177.96	1.55	3.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.56	0.84	0.00	1.39	0.31	0.49
d, Delay for Lane Group [s/veh]	90.52	10.04	0.00	188.78	70.95	74.10
Lane Group LOS	F	B	A	F	E	E
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.69	11.12	0.00	109.68	1.36	2.21
50th-Percentile Queue Length [ft/ln]	17.36	277.96	0.00	2741.94	34.08	55.26
95th-Percentile Queue Length [veh/ln]	1.25	16.59	0.00	164.73	2.45	3.98
95th-Percentile Queue Length [ft/ln]	31.24	414.67	0.00	4118.35	61.34	99.46

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	90.52	10.04	10.04	0.00	188.78	188.78	70.95	70.95	70.95	74.10	74.10	74.10
Movement LOS	F	B	B	A	F	F	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	10.95			188.78			70.95			74.10		
Approach LOS	B			F			E			E		
d_I, Intersection Delay [s/veh]	119.53											
Intersection LOS	F											
Intersection V/C	1.237											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.26	66.26	66.26	66.26
I_p,int, Pedestrian LOS Score for Intersection	3.782	3.095	1.784	1.778
Crosswalk LOS	D	C	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1520	1520	253	253
d_b, Bicycle Delay [s]	4.32	4.32	57.20	57.20
I_b,int, Bicycle LOS Score for Intersection	3.751	5.084	1.632	1.650
Bicycle LOS	D	F	A	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-








**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	62.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.239

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	1258	351	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	17	17	7	122	49	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	17	7	1380	400	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	2	363	105	2
Total Analysis Volume [veh/h]	18	18	7	1453	421	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.24	0.03	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	62.18	20.13	8.17	0.00	0.00	0.00
Movement LOS	F	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.01	1.01	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	25.25	25.25	0.46	0.46	0.00	0.00
d_A, Approach Delay [s/veh]	41.16		0.04		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	0.80					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	99	76	76	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	9	7	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	103	85	83	17	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	27	22	22	4	0
Total Analysis Volume [veh/h]	0	108	89	87	18	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.55	0.00	0.00	0.00	9.90	9.02
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	1.84	1.84
d_A, Approach Delay [s/veh]	0.00		0.00		9.90	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.59					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	27	0	0	31	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	14	7	0	35	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	7	0	66	17	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	2	0	17	4	0
Total Analysis Volume [veh/h]	43	7	0	69	18	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.29	0.00	9.15	8.58
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	1.56	1.56
d_A, Approach Delay [s/veh]	0.00		0.00		9.15	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.20					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	27	0	0	31	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	21	3	0	51	0	0	0	0	7	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	48	3	0	82	0	0	0	0	7	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	1	0	22	0	0	0	0	2	0	0
Total Analysis Volume [veh/h]	0	51	3	0	86	0	0	0	0	7	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**




V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.36	0.00	0.00	7.30	0.00	0.00	9.30	9.77	8.68	9.34	9.80	8.56
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.63	0.63
d_A, Approach Delay [s/veh]	0.00			0.00			9.25			9.34		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.44											
Intersection LOS	A											



**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.085

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	927	357	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	0	0	196	80	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	0	0	1123	437	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	0	296	115	2
Total Analysis Volume [veh/h]	19	0	0	1182	460	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	22.52	11.13	8.26	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.27	0.27	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.87	6.87	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.52		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	168	169	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	33
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	168	169	0	0	33
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	44	44	0	0	9
Total Analysis Volume [veh/h]	16	177	178	0	0	35
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	7.58	0.00	0.00	0.00	11.05	9.31
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.86	0.86	0.00	0.00	3.14	3.14
d_A, Approach Delay [s/veh]	0.63		0.00		9.31	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.10					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	168	169	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	15	33	0	0	26
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	183	202	0	0	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	48	53	0	0	7
Total Analysis Volume [veh/h]	13	193	213	0	0	27
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	7.65	0.00	0.00	0.00	11.37	9.47
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.72	0.72	0.00	0.00	2.51	2.51
d_A, Approach Delay [s/veh]	0.48		0.00		9.47	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.80					
Intersection LOS	A					

## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 12 2040 PM + P

Report File: C:\...\2040 PM + P.pdf

5/6/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	882	2908	1153	592	1369	882	976	595	523	605	10485

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	166	3267	386	1557	1332	145	1200	1714	129	185	307	1746	12134

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	2990	25	59	1644	15	88	4821

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	237	2460	480	586	1242	97	218	1123	221	218	156	285	7323

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	60	9	49	58	7	34	23	2320	39	24	467	17	3107

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	183	914	182	51	711	17	75	1602	1230	65	242	56	5328

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	791	161	1152	672	57	377	3210

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	112	8	11	13	16	98	141	784	62	13	802	22	2082

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	81	8	13	1383	399	38	1922

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	59	31	10	97	61	70	85	887	169	8	391	78	1946

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	576	2986	1473	637	621	7	1013	7313

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	2548	609	489	1641	582	2	269	6140

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	1	2869	2	39	1650	234	795	11	83	1	2	121	5808

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	82	1996	66	575	1048	151	396	571	124	27	204	478	5718

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	139	1395	32	76	839	100	648	375	446	26	131	68	4275



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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	329	1356	249	135	1241	107	186	346	310	125	88	76	4548

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	549	1843	20	73	1425	239	168	74	96	18	45	15	4565

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	630	1892	14	52	1416	95	116	22	566	29	22	17	4871

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	1595	399	408	1034	9	13	9	5	880	17	1001	5379

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	68	1198	807	719	1138	58	40	50	23	401	158	835	5495

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	16	7	460	15	828	565	709	9	8	750	401	3781

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	80	1146	100	10	1351	4	7	46	329	368	69	52	3562

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	22	1075	228	97	1797	0	0	12	73	206	5	45	3560

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	213	659	1919	170	71	768	3800

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	976	163	580	1954	120	1165	4958

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	101	0	7	62	0	17	187

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	84	0	7	55	0	0	0	0	0	0	17	163

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	76	26	4	51	0	0	0	0	11	0	9	177

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	7	1279	2007	0	17	3310	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	1227	0	15	2011	33	3286	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	14	1226	21	0	2025	4	8	0	35	52	0	0	3385

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	17	17	7	1380	400	7	1828

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	103	85	83	17	0	288

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	41	7	0	66	17	0	131

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	48	3	0	82	0	0	0	0	7	0	0	140

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	18	0	0	1123	437	7	1585

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	15	168	169	0	0	33	385

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	12	183	202	0	0	26	423

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## Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Updated Alt.vistro

Scenario 12 2040 PM + P

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7/12/2021

**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Thru	1.057	108.2	F
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	1.680	366.5	F
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.656	6.6	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	1.122	127.7	F
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	3.601	940.7	F
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	7.673	2,008.0	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Right	1.112	10,000.0	F
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	7.347	3,479.4	F
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.612	97.4	F
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	1.609	155.2	F
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	WB Right	1.310	162.7	F
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	1.047	88.9	F
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	NB Right	1.412	221.8	F
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Right	1.370	207.3	F
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Right	1.410	222.5	F
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Thru	2.601	255.7	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Right	0.997	65.3	E
			HCM 6th				

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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Right	1.150	110.7	F
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	WB Left	1.747	278.9	F
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	SB Left	1.150	127.6	F
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	EB Left	1.187	86.8	F
22	Market St/24th St	Signalized	HCM 6th Edition	SB Thru	1.149	153.2	F
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.597	17.0	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.713	14.3	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.921	51.1	D
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.007	8.6	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	NB Thru	0.062	9.3	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.006	9.1	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.120	66.5	F
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.078	24.1	C
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	SB Thru	1.186	97.5	F
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.078	47.5	E
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.011	9.8	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.009	8.9	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.003	9.1	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.031	19.3	C
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.018	9.2	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.015	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.



**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	108.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.057

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	800	2874	1153	592	1354	882	976	0	558	523	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	38	15	0	0	7	0	0	0	19	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	288	0	0	221	0	0	144	0	0	151
Total Hourly Volume [veh/h]	838	2889	865	592	1361	661	976	0	433	523	0	454
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	221	760	228	156	358	174	257	0	114	138	0	119
Total Analysis Volume [veh/h]	882	3041	911	623	1433	696	1027	0	456	551	0	478
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		2			4			3			3	
v_ci, Inbound Pedestrian Volume crossing mi		3			3			4			2	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	59	0	23	42	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	58	19	43	41	41
g / C, Green / Cycle	0.27	0.45	0.15	0.33	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.25	0.59	0.18	0.28	0.29	0.16
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	936	2324	515	1705	1096	1096
d1, Uniform Delay [s]	46.68	35.78	55.42	40.39	43.44	36.46
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.62	142.06	98.34	5.19	4.53	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.94	1.31	1.21	0.84	0.94	0.50
d, Delay for Lane Group [s/veh]	52.30	177.84	153.77	45.58	47.97	36.82
Lane Group LOS	D	F	F	D	D	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	14.35	53.84	15.40	14.77	15.45	6.70
50th-Percentile Queue Length [ft/ln]	358.85	1345.92	384.96	369.14	386.32	167.56
95th-Percentile Queue Length [veh/ln]	20.57	78.73	23.72	21.07	21.90	10.95
95th-Percentile Queue Length [ft/ln]	514.19	1968.27	593.03	526.68	547.49	273.71

**Movement, Approach, & Intersection Results**

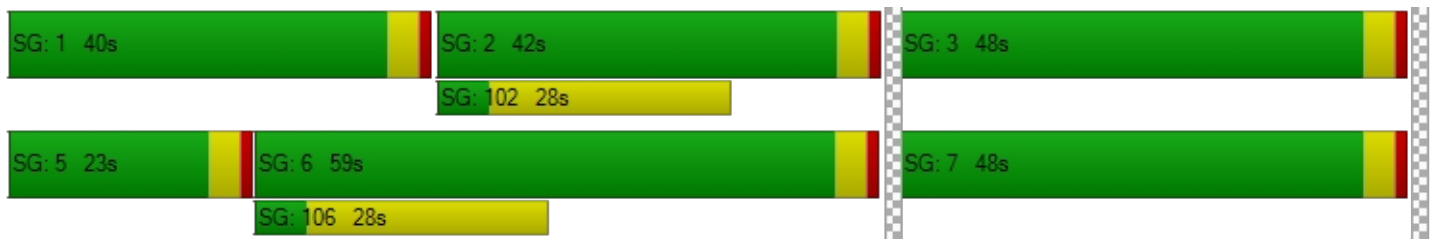
d_M, Delay for Movement [s/veh]	52.30	177.84	0.00	153.77	45.58	0.00	47.97	0.00	0.00	36.82	0.00	0.00
Movement LOS	D	F		F	D		D			D		
d_A, Approach Delay [s/veh]	149.62			78.36			47.97			36.82		
Approach LOS	F			E			D			D		
d_I, Intersection Delay [s/veh]	108.19											
Intersection LOS	F											
Intersection V/C	1.057											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			56.28			56.28		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			3.144			2.885		
Crosswalk LOS	F			F			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	847			585			677			677		
d_b, Bicycle Delay [s]	21.61			32.53			28.42			28.42		
I_b,int, Bicycle LOS Score for Intersection	3.717			2.690			1.560			1.560		
Bicycle LOS	D			B			A			A		

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	366.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.680

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	166	3151	386	1557	1280	145	1200	1714	129	185	307	1746
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	53	0	0	27	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	97	0	0	36	0	0	32	0	0	437
Total Hourly Volume [veh/h]	166	3204	289	1557	1307	109	1200	1714	97	185	307	1309
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	843	76	410	344	29	316	451	26	49	81	344
Total Analysis Volume [veh/h]	175	3373	304	1639	1376	115	1263	1804	102	195	323	1378
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	12	40	0	28	56	0	22	53	0	9	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	36	36	24	52	52	18	49	49	5	36	64
g / C, Green / Cycle	0.06	0.28	0.28	0.18	0.40	0.40	0.14	0.38	0.38	0.04	0.28	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.52	0.55	0.47	0.27	0.28	0.36	0.50	0.06	0.06	0.09	0.48
s, saturation flow rate [veh/h]	3514	5176	1802	3514	3618	1828	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	217	1438	501	649	1450	733	487	1360	607	135	998	1405
d1, Uniform Delay [s]	60.24	46.94	46.94	53.00	31.98	32.45	56.00	40.57	27.02	62.50	37.42	32.47
k, delay calibration	0.11	0.50	0.50	0.46	0.50	0.50	0.29	0.21	0.11	0.11	0.11	0.36
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.00	394.90	443.29	690.94	2.52	5.53	721.18	149.23	0.13	206.67	0.19	16.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.81	1.87	1.97	2.53	0.67	0.70	2.59	1.33	0.17	1.44	0.32	0.98
d, Delay for Lane Group [s/veh]	67.24	441.84	490.24	743.94	34.50	37.98	777.18	189.79	27.15	269.17	37.60	48.91
Lane Group LOS	E	F	F	F	C	D	F	F	C	F	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.98	67.38	77.10	72.65	12.77	14.20	56.53	48.84	2.09	6.07	3.99	22.58
50th-Percentile Queue Length [ft/ln]	74.55	1684.43	1927.61	1816.27	319.34	355.00	1413.31	1220.92	52.14	151.70	99.68	564.39
95th-Percentile Queue Length [veh/ln]	5.37	105.44	120.71	113.41	18.64	20.38	87.94	71.76	3.75	10.92	7.18	30.37
95th-Percentile Queue Length [ft/ln]	134.18	2635.99	3017.86	2835.23	465.88	509.50	2198.40	1794.01	93.85	273.07	179.42	759.19

**Movement, Approach, & Intersection Results**

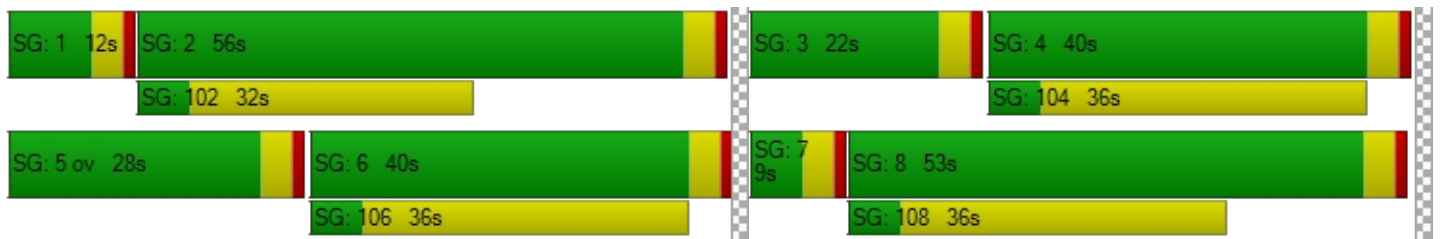
d_M, Delay for Movement [s/veh]	67.24	451.62	490.24	743.94	35.51	37.98	777.18	189.79	27.15	269.17	37.60	48.91
Movement LOS	E	F	F	F	D	D	F	F	C	F	D	D
d_A, Approach Delay [s/veh]	437.21			406.56			418.66			69.64		
Approach LOS	F			F			F			E		
d_I, Intersection Delay [s/veh]	366.52											
Intersection LOS	F											
Intersection V/C	1.680											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	4.027	4.308	3.494	4.605
Crosswalk LOS	D	E	C	E
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	800	754	554
d_b, Bicycle Delay [s]	33.99	23.40	25.24	33.99
I_b,int, Bicycle LOS Score for Intersection	3.189	3.301	4.200	3.484
Bicycle LOS	C	C	D	C

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	2874	25	59	1592	15	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	53	0	0	27	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	22
Total Hourly Volume [veh/h]	2927	19	59	1619	15	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	770	5	16	426	4	17
Total Analysis Volume [veh/h]	3081	20	62	1704	16	69
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	32	88	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	97	97	4	105	7	7
g / C, Green / Cycle	0.81	0.81	0.04	0.88	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.60	0.01	0.02	0.33	0.01	0.04
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4172	1302	129	4535	103	92
d1, Uniform Delay [s]	5.58	2.29	56.65	1.37	53.80	55.70
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.21	0.02	2.74	0.24	0.69	11.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.02	0.48	0.38	0.15	0.75
d, Delay for Lane Group [s/veh]	6.78	2.31	59.39	1.61	54.48	67.05
Lane Group LOS	A	A	E	A	D	E
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.22	0.06	0.97	1.15	0.48	2.35
50th-Percentile Queue Length [ft/ln]	180.53	1.54	24.29	28.75	12.01	58.70
95th-Percentile Queue Length [veh/ln]	11.63	0.11	1.75	2.07	0.86	4.23
95th-Percentile Queue Length [ft/ln]	290.70	2.78	43.71	51.76	21.62	105.67

**Movement, Approach, & Intersection Results**

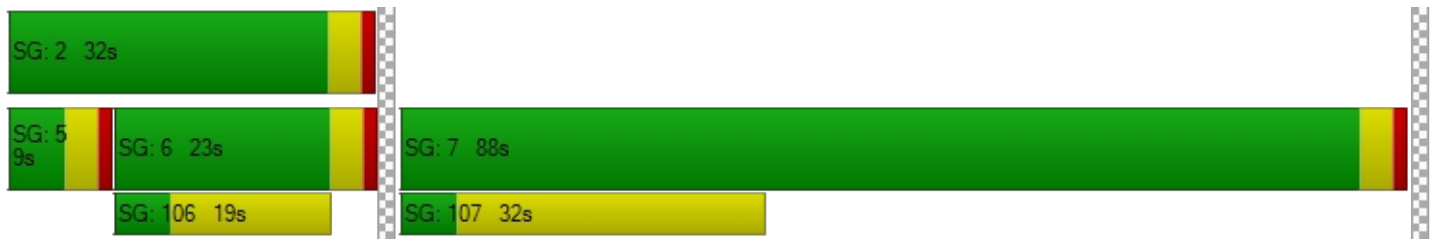
d_M, Delay for Movement [s/veh]	6.78	2.31	59.39	1.61	54.48	67.05
Movement LOS	A	A	E	A	D	E
d_A, Approach Delay [s/veh]	6.75		3.64		64.68	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	6.64					
Intersection LOS	A					
Intersection V/C	0.656					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.33	51.33
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.343	2.225
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	317	467	1400
d_b, Bicycle Delay [s]	42.50	35.26	5.40
I_b,int, Bicycle LOS Score for Intersection	3.268	2.531	1.560
Bicycle LOS	C	B	A

**Sequence**





Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	127.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.122

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	237	2460	480	534	1242	97	218	1123	221	218	156	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	27	0	0	0	0	0	0	0	53
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	120	0	0	24	0	0	55	0	0	56
Total Hourly Volume [veh/h]	237	2460	360	561	1242	73	218	1123	166	218	156	166
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	647	95	148	327	19	57	296	44	57	41	44
Total Analysis Volume [veh/h]	249	2589	379	591	1307	77	229	1182	175	229	164	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	53	0	20	58	0	21	40	0	17	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	49	49	16	54	54	17	36	36	13	32	32
g / C, Green / Cycle	0.08	0.38	0.38	0.12	0.42	0.42	0.13	0.28	0.28	0.10	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.50	0.23	0.17	0.25	0.25	0.13	0.33	0.11	0.13	0.05	0.11
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1846	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	298	1956	610	433	1506	769	237	998	446	181	887	396
d1, Uniform Delay [s]	58.61	40.44	32.87	57.00	29.64	29.68	56.22	47.07	38.23	58.50	38.80	41.54
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.12	0.15	0.11	0.12	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.18	149.37	4.70	167.95	1.83	3.59	21.69	86.44	0.56	129.54	0.10	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.84	1.32	0.62	1.37	0.61	0.61	0.97	1.18	0.39	1.26	0.18	0.44
d, Delay for Lane Group [s/veh]	64.79	189.81	37.58	224.95	31.48	33.26	77.91	133.51	38.79	188.04	38.90	42.32
Lane Group LOS	E	F	D	F	C	C	E	F	D	F	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.30	47.59	10.50	17.19	11.54	12.21	8.90	28.00	4.63	12.47	2.10	4.87
50th-Percentile Queue Length [ft/ln]	107.45	1189.64	262.56	429.84	288.44	305.16	222.49	699.98	115.81	311.84	52.61	121.65
95th-Percentile Queue Length [veh/ln]	7.70	70.01	15.82	27.01	17.11	17.94	13.79	40.49	8.16	19.89	3.79	8.48
95th-Percentile Queue Length [ft/ln]	192.45	1750.25	395.43	675.35	427.71	448.41	344.80	1012.37	204.06	497.17	94.70	212.10

**Movement, Approach, & Intersection Results**

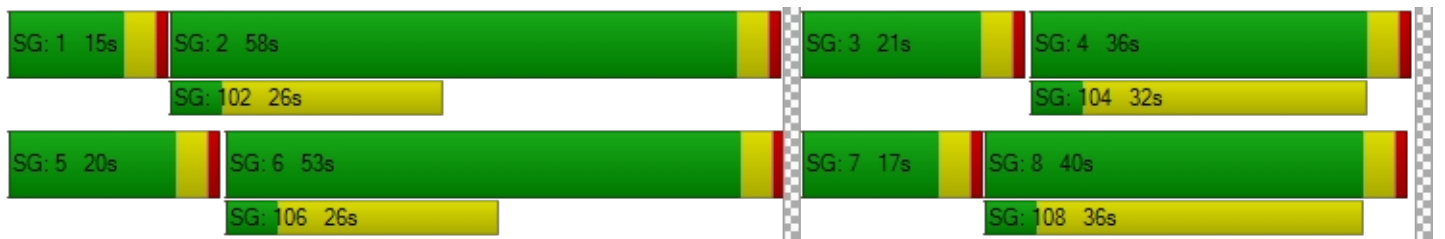
d_M, Delay for Movement [s/veh]	64.79	189.81	37.58	224.95	32.01	33.26	77.91	133.51	38.79	188.04	38.90	42.32
Movement LOS	E	F	D	F	C	C	E	F	D	F	D	D
d_A, Approach Delay [s/veh]	162.20			89.79			115.03			100.08		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	127.74											
Intersection LOS	F											
Intersection V/C	1.122											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	3.592	3.394	2.900	3.022
Crosswalk LOS	D	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	754	831	554	492
d_b, Bicycle Delay [s]	25.24	22.22	33.99	36.94
I_b,int, Bicycle LOS Score for Intersection	3.395	2.659	2.913	2.074
Bicycle LOS	C	B	C	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	940.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.601

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	16	58	7	34	23	2287	13	9	394	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	0	15	0	0	0	0	17	13	8	33	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	9	31	58	7	34	23	2304	26	17	427	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	2	8	15	2	9	6	606	7	4	112	4
Total Analysis Volume [veh/h]	28	9	33	61	7	36	24	2425	27	18	449	18
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	523	526	2476	663
Degree of Utilization, x	0.13	0.20	3.60	0.73

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.46	0.73	227.63	6.37
95th-Percentile Queue Length [ft]	11.49	18.25	5690.86	159.29
Approach Delay [s/veh]	10.94	11.53	1185.96	21.81
Approach LOS	B	B	F	C
Intersection Delay [s/veh]	940.66			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	2,008.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	7.673

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	143	897	165	51	704	17	75	1555	1212	58	195	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	18	7	7	0	4	0	0	22	9	4	22	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	161	904	172	51	708	17	75	1577	1221	62	217	56
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	238	45	13	186	4	20	415	321	16	57	15
Total Analysis Volume [veh/h]	169	952	181	54	745	18	79	1660	1285	65	228	59
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	1302	817	3024	379
Degree of Utilization, x	3.37	2.13	7.67	0.93

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	118.62	59.33	332.15	9.93
95th-Percentile Queue Length [ft]	2965.40	1483.32	8303.79	248.25
Approach Delay [s/veh]	1093.29	537.80	3025.53	61.54
Approach LOS	F	F	F	F
Intersection Delay [s/veh]	2007.95			
Intersection LOS	F			



**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.112

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name						
Base Volume Input [veh/h]	784	154	1030	655	40	328
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	4	53	8	8	25
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	788	158	1083	663	48	353
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	207	42	285	174	13	93
Total Analysis Volume [veh/h]	829	166	1140	698	51	372
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	1.62	0.01	0.00	1.11
d_M, Delay for Movement [s/veh]	0.00	0.00	302.37	0.00	10000.00	10000.00
Movement LOS	A	A	F	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	61.54	61.54	55.72	55.72
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1538.52	1538.52	1393.04	1393.04
d_A, Approach Delay [s/veh]	0.00		187.54		10000.00	
Approach LOS	A		F		F	
d_I, Intersection Delay [s/veh]	1405.01					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	3,479.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	7.347

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	80	8	11	13	16	98	141	734	47	13	780	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	0	0	0	0	0	22	8	0	12	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	8	11	13	16	98	141	756	55	13	792	22
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	2	3	3	4	26	37	199	14	3	208	6
Total Analysis Volume [veh/h]	100	8	12	14	17	103	148	796	58	14	834	23
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	7.35	0.22	0.03	0.54	0.47	0.28	0.19	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	3479.37	3311.76	3224.47	367.41	327.23	237.73	10.59	0.00	0.00	9.61	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	15.86	15.86	15.86	9.24	9.24	9.24	0.68	0.68	0.68	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	396.54	396.54	396.54	231.00	231.00	231.00	17.09	17.09	17.09	1.35	1.35	1.35
d_A, Approach Delay [s/veh]	3442.71			262.63			1.56			0.15		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	211.57											
Intersection LOS	F											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	97.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	23	8	13	1245	343	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	0	0	60	29	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	8	13	1305	372	27
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	2	3	343	98	7
Total Analysis Volume [veh/h]	51	8	14	1374	392	28
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.61	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	97.38	59.69	8.17	0.00	0.00	0.00
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.98	2.98	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	74.60	74.60	0.92	0.92	0.00	0.00
d_A, Approach Delay [s/veh]	92.27		0.08		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	2.98					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	155.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.609

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	59	31	10	38	61	70	85	673	169	8	304	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	27	0	0	0	93	0	0	45	14
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	31	10	65	61	70	85	766	169	8	349	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	8	3	17	16	18	22	202	44	2	92	17
Total Analysis Volume [veh/h]	62	33	11	68	64	74	89	806	178	8	367	69
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	480	521	895	630	535	598
Degree of Utilization, x	0.22	0.40	1.61	0.28	0.70	0.12

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.83	1.87	49.18	1.16	5.52	0.39
95th-Percentile Queue Length [ft]	20.87	46.87	1229.57	28.91	137.97	9.73
Approach Delay [s/veh]	12.60	14.37	251.60		21.51	
Approach LOS	B	B	F		C	
Intersection Delay [s/veh]	155.17					
Intersection LOS	F					



**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	162.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.310

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	498	2952	0	0	1459	637	0	0	0	585	7	1013
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	33	15	0	0	8	0	0	0	0	19	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	159	0	0	0	0	0	253
Total Hourly Volume [veh/h]	531	2967	0	0	1467	478	0	0	0	604	7	760
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	140	781	0	0	386	126	0	0	0	159	2	200
Total Analysis Volume [veh/h]	559	3123	0	0	1544	503	0	0	0	636	7	800
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	33	74	0	0	41	0	0	0	0	0	41	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	115	115	115	115		115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	29	70	37	37		37	37
g / C, Green / Cycle	0.25	0.61	0.32	0.32		0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.33	0.86	0.30	0.31		0.40	0.45
s, saturation flow rate [veh/h]	1714	3618	5176	1615		1787	1615
c, Capacity [veh/h]	433	2202	1665	520		575	519
d1, Uniform Delay [s]	42.97	22.48	37.69	38.41		38.99	38.99
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	147.92	190.83	10.46	32.35		128.72	186.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.29	1.42	0.93	0.97		1.26	1.39
d, Delay for Lane Group [s/veh]	190.89	213.31	48.14	70.75		167.71	225.71
Lane Group LOS	F	F	D	E		F	F
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	29.92	85.43	15.39	18.39		36.46	41.32
50th-Percentile Queue Length [ft/ln]	747.99	2135.70	384.64	459.66		911.41	1032.92
95th-Percentile Queue Length [veh/ln]	44.57	128.35	21.82	25.42		53.14	62.24
95th-Percentile Queue Length [ft/ln]	1114.27	3208.64	545.46	635.47		1328.42	1556.04

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	190.89	213.31	0.00	0.00	48.14	70.75	0.00	0.00	0.00	167.71	167.71	220.02
Movement LOS	F	F			D	E				F	F	F
d_A, Approach Delay [s/veh]	209.91			53.70			0.00			196.71		
Approach LOS	F			D			A			F		
d_I, Intersection Delay [s/veh]	162.67											
Intersection LOS	F											
Intersection V/C	1.310											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			48.84			48.84		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			2.327			2.865		
Crosswalk LOS	F			F			B			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1218			644			0			644		
d_b, Bicycle Delay [s]	8.80			26.44			57.49			26.44		
I_b,int, Bicycle LOS Score for Intersection	4.597			2.773			4.132			4.358		
Bicycle LOS	E			C			D			E		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	88.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.047

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	2436	524	489	1591	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	49	37	0	26	0	0	0	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	140	0	0	0	0	0	63	0	0	0
Total Hourly Volume [veh/h]	0	2485	421	489	1617	0	582	2	190	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	654	111	129	426	0	153	1	50	0	0	0
Total Analysis Volume [veh/h]	0	2616	443	515	1702	0	613	2	200	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	50	0	33	83	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	110	110	110	110	110	110	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	46	46	29	79	23	23	
g / C, Green / Cycle	0.42	0.42	0.26	0.72	0.21	0.21	
(v / s)_i Volume / Saturation Flow Rate	0.51	0.27	0.30	0.47	0.24	0.24	
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1710	
c, Capacity [veh/h]	2162	675	452	2597	359	358	
d1, Uniform Delay [s]	32.02	25.69	40.48	8.27	43.47	43.47	
k, delay calibration	0.50	0.50	0.50	0.50	0.35	0.37	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	99.07	4.94	86.23	1.31	77.89	89.15	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.21	0.66	1.14	0.66	1.12	1.15	
d, Delay for Lane Group [s/veh]	131.08	30.63	126.71	9.57	121.36	132.62	
Lane Group LOS	F	C	F	A	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	38.27	10.02	22.87	9.68	17.43	18.50	
50th-Percentile Queue Length [ft/ln]	956.78	250.52	571.83	242.03	435.66	462.54	
95th-Percentile Queue Length [veh/ln]	55.07	15.21	33.13	14.78	25.80	27.50	
95th-Percentile Queue Length [ft/ln]	1376.65	380.31	828.32	369.61	645.01	687.43	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	131.08	30.63	126.71	9.57	0.00	125.19	132.62	132.62	0.00	0.00	0.00
Movement LOS		F	C	F	A		F	F	F			
d_A, Approach Delay [s/veh]		116.54		36.78			127.05			0.00		
Approach LOS		F		D			F			A		
d_I, Intersection Delay [s/veh]	88.92											
Intersection LOS	F											
Intersection V/C	1.047											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		0.00		46.36		46.36
I_p,int, Pedestrian LOS Score for Intersection	0.000		0.000		2.326		2.262
Crosswalk LOS	F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	836		1437		418		0
d_b, Bicycle Delay [s]	18.61		4.36		34.40		54.99
I_b,int, Bicycle LOS Score for Intersection	3.319		3.389		3.008		4.132
Bicycle LOS	C		C		C		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	221.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.412

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	2673	2	39	1568	234	795	11	83	1	2	121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	86	0	0	42	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	59	0	0	21	0	0	30
Total Hourly Volume [veh/h]	1	2759	1	39	1610	175	795	11	62	1	2	91
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	726	0	10	424	46	209	3	16	0	1	24
Total Analysis Volume [veh/h]	1	2904	1	41	1695	184	837	12	65	1	2	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	170
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	41	84	0	9	52	0	0	77	0	0	77	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	170	170	170	170	170	170	170	170	170
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	89	81	81	89	85	85	73	73	73
g / C, Green / Cycle	0.52	0.48	0.48	0.52	0.50	0.50	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.00	0.76	0.76	0.20	0.47	0.11	0.64	0.05	0.06
s, saturation flow rate [veh/h]	330	1900	1900	203	3618	1615	1318	1654	1621
c, Capacity [veh/h]	107	903	903	127	1806	806	541	709	717
d1, Uniform Delay [s]	35.55	44.59	44.59	39.88	40.11	24.06	51.82	29.08	29.53
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	278.78	278.87	6.65	10.91	0.66	255.88	0.07	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	1.61	1.61	0.32	0.94	0.23	1.55	0.11	0.14
d, Delay for Lane Group [s/veh]	35.58	323.37	323.46	46.52	51.02	24.72	307.70	29.15	29.62
Lane Group LOS	D	F	F	D	D	C	F	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.02	107.66	107.67	1.06	35.87	4.46	61.76	1.96	2.56
50th-Percentile Queue Length [ft/ln]	0.52	2691.54	2691.76	26.43	896.75	111.55	1543.94	48.93	63.89
95th-Percentile Queue Length [veh/ln]	0.04	164.71	164.73	1.90	45.69	7.93	95.67	3.52	4.60
95th-Percentile Queue Length [ft/ln]	0.93	4117.84	4118.33	47.58	1142.31	198.16	2391.72	88.08	115.00

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	35.58	323.41	323.46	46.52	51.02	24.72	307.70	29.15	29.15	29.62	29.62	29.62
Movement LOS	D	F	F	D	D	C	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	323.31			48.40			284.23			29.62		
Approach LOS	F			D			F			C		
d_I, Intersection Delay [s/veh]	221.82											
Intersection LOS	F											
Intersection V/C	1.412											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	76.24	0.00	76.24	76.24
I_p,int, Pedestrian LOS Score for Intersection	3.248	0.000	2.386	1.907
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	565	859	859
d_b, Bicycle Delay [s]	23.82	43.78	27.67	27.67
I_b,int, Bicycle LOS Score for Intersection	3.958	3.192	3.102	1.772
Bicycle LOS	D	C	C	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	207.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.370

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	82	1800	66	575	966	151	396	571	124	27	204	478
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	86	0	0	42	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	38	0	0	31	0	0	120
Total Hourly Volume [veh/h]	82	1886	49	575	1008	113	396	571	93	27	204	358
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	496	13	151	265	30	104	150	24	7	54	94
Total Analysis Volume [veh/h]	86	1985	52	605	1061	119	417	601	98	28	215	377
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	175
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	64	0	46	95	0	33	56	0	9	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	175	175	175	175	175	175	175	175	175	175	175	175
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	60	60	42	91	91	29	53	53	4	28	28
g / C, Green / Cycle	0.06	0.34	0.34	0.24	0.52	0.52	0.17	0.30	0.30	0.02	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.05	0.54	0.54	0.35	0.31	0.32	0.24	0.18	0.06	0.02	0.11	0.23
s, saturation flow rate [veh/h]	1714	1900	1883	1714	1900	1834	1714	3427	1530	1714	1900	1615
c, Capacity [veh/h]	103	652	646	410	993	958	284	1042	465	37	304	258
d1, Uniform Delay [s]	81.29	57.42	57.42	66.50	28.99	29.32	72.92	51.34	45.24	85.04	69.56	73.44
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.20	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.57	260.25	266.54	226.32	2.65	2.92	228.19	0.51	0.22	25.43	5.51	226.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.83	1.56	1.58	1.47	0.60	0.61	1.47	0.58	0.21	0.75	0.71	1.46
d, Delay for Lane Group [s/veh]	96.86	317.67	323.95	292.81	31.65	32.24	301.11	51.85	45.46	110.47	75.07	300.13
Lane Group LOS	F	F	F	F	C	C	F	D	D	F	E	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.32	75.98	76.43	44.17	18.25	18.30	30.86	11.34	3.27	1.54	9.66	27.94
50th-Percentile Queue Length [ft/ln]	108.00	1899.42	1910.68	1104.29	456.28	457.61	771.51	283.53	81.66	38.38	241.53	698.52
95th-Percentile Queue Length [veh/ln]	7.73	114.61	115.57	66.49	25.26	25.32	46.96	16.86	5.88	2.76	14.76	42.80
95th-Percentile Queue Length [ft/ln]	193.22	2865.25	2889.36	1662.13	631.44	633.02	1174.02	421.60	146.99	69.08	368.97	1070.08

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	96.86	320.73	323.95	292.81	31.91	32.24	301.11	51.85	45.46	110.47	75.07	300.13
Movement LOS	F	F	F	F	C	C	F	D	D	F	E	F
d_A, Approach Delay [s/veh]	311.74			120.36			144.43			213.52		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	207.34											
Intersection LOS	F											
Intersection V/C	1.370											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	78.69	78.69	78.69	78.69
I_p,int, Pedestrian LOS Score for Intersection	3.011	3.307	2.894	2.983
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	1040	595	320
d_b, Bicycle Delay [s]	37.75	20.13	43.19	61.70
I_b,int, Bicycle LOS Score for Intersection	3.325	3.064	2.506	2.170
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	222.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.410

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	139	1248	32	76	779	78	598	375	446	26	131	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	64	0	0	31	12	22	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	23	0	0	112	0	0	17
Total Hourly Volume [veh/h]	139	1312	24	76	810	67	620	375	334	26	131	51
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	345	6	20	213	18	163	99	88	7	34	13
Total Analysis Volume [veh/h]	146	1381	25	80	853	71	653	395	352	27	138	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	42	0	10	38	0	0	98	0	0	98	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	150	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	38	38	6	34	34	94	94
g / C, Green / Cycle	0.07	0.25	0.25	0.04	0.23	0.23	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.09	0.37	0.37	0.05	0.25	0.25	0.99	0.13
s, saturation flow rate [veh/h]	1714	1900	1888	1714	1900	1849	1412	1689
c, Capacity [veh/h]	114	483	480	69	433	421	918	1083
d1, Uniform Delay [s]	70.00	55.91	55.91	72.00	57.91	57.91	30.96	11.96
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	138.80	216.89	218.37	103.47	67.04	67.62	241.52	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.28	1.46	1.46	1.17	1.08	1.08	1.52	0.20
d, Delay for Lane Group [s/veh]	208.79	272.80	274.28	175.47	124.95	125.53	272.49	12.05
Lane Group LOS	F	F	F	F	F	F	F	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.82	47.42	47.32	4.62	24.49	23.90	95.13	3.07
50th-Percentile Queue Length [ft/ln]	220.44	1185.46	1182.97	115.61	612.27	597.58	2378.29	76.87
95th-Percentile Queue Length [veh/ln]	14.72	70.92	70.84	8.32	34.14	33.42	146.90	5.53
95th-Percentile Queue Length [ft/ln]	368.11	1773.01	1770.90	208.10	853.49	835.45	3672.55	138.37



**Movement, Approach, & Intersection Results**

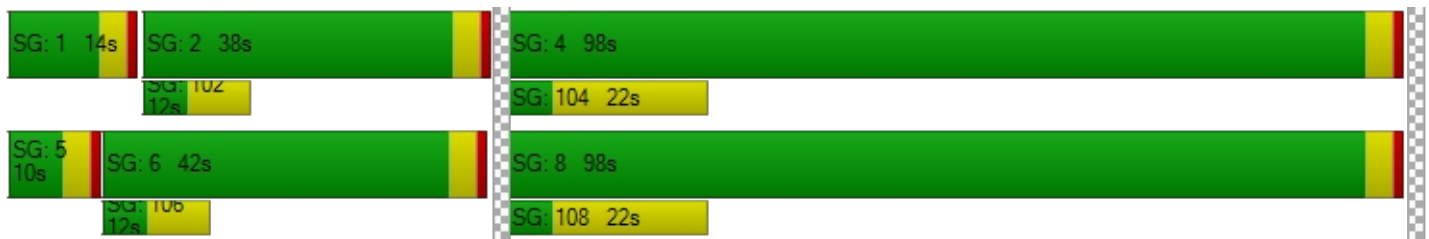
d_M, Delay for Movement [s/veh]	208.79	273.53	274.28	175.47	125.22	125.53	272.49	272.49	272.49	12.05	12.05	12.05
Movement LOS	F	F	F	F	F	F	F	F	F	B	B	B
d_A, Approach Delay [s/veh]	267.45			129.24			272.49			12.05		
Approach LOS	F			F			F			B		
d_I, Intersection Delay [s/veh]	222.50											
Intersection LOS	F											
Intersection V/C	1.410											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27	66.27
I_p,int, Pedestrian LOS Score for Intersection	2.941	3.898	2.821	2.248
Crosswalk LOS	C	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	507	453	1253	1253
d_b, Bicycle Delay [s]	41.81	44.85	10.45	10.45
I_b,int, Bicycle LOS Score for Intersection	2.847	2.407	4.054	1.949
Bicycle LOS	C	B	D	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	255.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.601

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵ ↑			↵ ↑			↑ ↵			↑ ↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	282	1356	249	135	1241	47	39	329	201	125	81	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	31	64	7	48	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	62	0	0	20	0	0	62	0	0	19
Total Hourly Volume [veh/h]	306	1356	187	135	1241	58	103	336	187	125	85	57
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	357	49	36	327	15	27	88	49	33	22	15
Total Analysis Volume [veh/h]	322	1427	197	142	1306	61	108	354	197	132	89	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	21	0	9	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	17	17	5	15	15	26	26	26	26
g / C, Green / Cycle	0.12	0.28	0.28	0.08	0.25	0.25	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.19	0.43	0.45	0.08	0.36	0.36	1.12	0.12	2.05	0.04
s, saturation flow rate [veh/h]	1714	1900	1822	1714	1900	1870	411	1615	108	1615
c, Capacity [veh/h]	204	540	518	148	477	470	251	696	142	696
d1, Uniform Delay [s]	26.57	21.60	21.60	27.47	22.59	22.59	15.77	11.13	22.58	10.15
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	265.33	236.60	265.30	26.26	209.75	212.89	394.26	0.22	282.92	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.58	1.50	1.57	0.96	1.44	1.45	1.84	0.28	1.56	0.09
d, Delay for Lane Group [s/veh]	291.91	258.20	286.90	53.73	232.33	235.48	410.03	11.35	305.50	10.20
Lane Group LOS	F	F	F	D	F	F	F	B	F	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	17.78	42.32	44.71	3.00	33.95	33.83	29.58	1.52	13.10	0.42
50th-Percentile Queue Length [ft/ln]	444.58	1057.99	1117.70	74.96	848.64	845.67	739.53	38.12	327.57	10.55
95th-Percentile Queue Length [veh/ln]	28.77	64.98	69.22	5.40	52.00	51.92	50.84	2.74	23.56	0.76
95th-Percentile Queue Length [ft/ln]	719.14	1624.44	1730.44	134.94	1300.09	1298.01	1271.10	68.62	588.89	18.98

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	291.91	270.57	286.90	53.73	233.82	235.48	410.03	410.03	11.35	305.50	305.50	10.20
Movement LOS	F	F	F	D	F	F	F	F	B	F	F	B
d_A, Approach Delay [s/veh]	275.75			216.94			290.85			242.44		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	255.70											
Intersection LOS	F											
Intersection V/C	2.601											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.76	21.76	21.76	21.76
I_p,int, Pedestrian LOS Score for Intersection	3.279	3.076	2.403	2.291
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	565	499	864	864
d_b, Bicycle Delay [s]	15.48	16.95	9.70	9.70
I_b,int, Bicycle LOS Score for Intersection	3.216	2.821	2.749	2.055
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	65.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.997

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	549	1796	20	73	1316	239	168	74	96	18	45	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	24	0	0	48	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	60	0	0	24	0	0	4
Total Hourly Volume [veh/h]	549	1820	15	73	1364	179	168	74	72	18	45	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	479	4	19	359	47	44	19	19	5	12	3
Total Analysis Volume [veh/h]	578	1916	16	77	1436	188	177	78	76	19	47	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	40	79	0	10	49	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	75	75	6	45	45	22	22
g / C, Green / Cycle	0.31	0.65	0.65	0.05	0.39	0.39	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.34	0.51	0.51	0.04	0.43	0.44	0.22	0.05
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1825	1510	1658
c, Capacity [veh/h]	536	1237	1233	91	743	714	338	357
d1, Uniform Delay [s]	39.49	14.24	14.29	53.97	35.00	35.00	47.88	39.21
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.33	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	61.37	4.94	5.02	18.72	64.81	74.65	35.46	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.08	0.78	0.78	0.85	1.10	1.13	0.98	0.22
d, Delay for Lane Group [s/veh]	100.86	19.19	19.31	72.68	99.81	109.65	83.34	39.51
Lane Group LOS	F	B	B	E	F	F	F	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	24.02	17.90	17.97	2.68	33.58	34.20	12.94	1.90
50th-Percentile Queue Length [ft/ln]	600.60	447.46	449.21	66.98	839.43	854.99	323.54	47.45
95th-Percentile Queue Length [veh/ln]	33.65	24.84	24.92	4.82	46.17	47.61	18.84	3.42
95th-Percentile Queue Length [ft/ln]	841.26	620.91	623.00	120.56	1154.33	1190.34	471.04	85.42

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	100.86	19.25	19.31	72.68	104.04	109.65	83.34	83.34	83.34	39.51	39.51	39.51
Movement LOS	F	B	B	E	F	F	F	F	F	D	D	D
d_A, Approach Delay [s/veh]	38.04			103.24			83.34			39.51		
Approach LOS	D			F			F			D		
d_I, Intersection Delay [s/veh]	65.32											
Intersection LOS	E											
Intersection V/C	0.997											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.84	48.84	48.84	48.84
I_p,int, Pedestrian LOS Score for Intersection	3.141	3.405	2.361	1.860
Crosswalk LOS	C	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1305	783	383	383
d_b, Bicycle Delay [s]	6.95	21.29	37.59	37.59
I_b,int, Bicycle LOS Score for Intersection	3.634	3.012	2.145	1.695
Bicycle LOS	D	C	B	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	110.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.150

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	630	1853	14	52	1323	78	109	22	566	29	22	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	0	41	8	4	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	22	0	0	142	0	0	4
Total Hourly Volume [veh/h]	630	1873	10	52	1364	64	113	22	424	29	22	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	493	3	14	359	17	30	6	112	8	6	3
Total Analysis Volume [veh/h]	663	1972	11	55	1436	67	119	23	446	31	23	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	40	71	0	9	40	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	67	67	5	36	36	31	31
g / C, Green / Cycle	0.31	0.59	0.59	0.04	0.31	0.31	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.39	0.52	0.52	0.03	0.40	0.40	0.36	0.08
s, saturation flow rate [veh/h]	1714	1900	1896	1714	1900	1870	1619	865
c, Capacity [veh/h]	536	1111	1109	71	595	585	474	279
d1, Uniform Delay [s]	39.49	20.74	20.78	54.58	39.48	39.48	42.90	31.96
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	121.52	10.97	11.13	16.42	134.33	137.53	124.89	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.24	0.89	0.89	0.78	1.27	1.28	1.24	0.24
d, Delay for Lane Group [s/veh]	161.00	31.71	31.91	71.00	173.81	177.02	167.79	32.41
Lane Group LOS	F	C	C	E	F	F	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	32.99	24.89	24.97	1.90	38.69	38.61	30.16	1.49
50th-Percentile Queue Length [ft/ln]	824.67	622.15	624.37	47.49	967.25	965.22	754.01	37.27
95th-Percentile Queue Length [veh/ln]	48.12	33.07	33.17	3.42	56.32	56.36	44.20	2.68
95th-Percentile Queue Length [ft/ln]	1202.99	826.69	829.27	85.48	1408.08	1409.10	1105.12	67.09

**Movement, Approach, & Intersection Results**

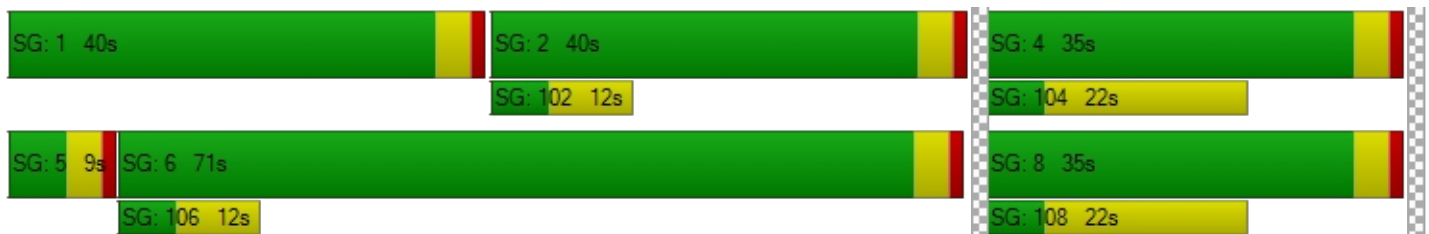
d_M, Delay for Movement [s/veh]	161.00	31.81	31.91	71.00	175.33	177.02	167.79	167.79	167.79	32.41	32.41	32.41
Movement LOS	F	C	C	E	F	F	F	F	F	C	C	C
d_A, Approach Delay [s/veh]	64.18			171.72			167.79			32.41		
Approach LOS	E			F			F			C		
d_I, Intersection Delay [s/veh]	110.75											
Intersection LOS	F											
Intersection V/C	1.150											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.84	48.84	48.84	48.84
I_p,int, Pedestrian LOS Score for Intersection	3.280	3.233	2.664	1.814
Crosswalk LOS	C	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1165	626	539	539
d_b, Bicycle Delay [s]	10.01	27.12	30.67	30.67
I_b,int, Bicycle LOS Score for Intersection	3.746	2.863	2.764	1.678
Bicycle LOS	D	C	C	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	278.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.747

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	1556	399	408	941	9	13	9	5	880	17	1001
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	0	41	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	100	0	0	2	0	0	1	0	0	250
Total Hourly Volume [veh/h]	9	1576	299	408	982	7	13	9	4	880	17	751
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	415	79	107	258	2	3	2	1	232	4	198
Total Analysis Volume [veh/h]	9	1659	315	429	1034	7	14	9	4	926	18	791
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	36	37	0	20	21	0	0	53	0	0	53	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	33	33	16	48	48	49	49	49
g / C, Green / Cycle	0.01	0.30	0.30	0.15	0.43	0.43	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.01	0.52	0.55	0.25	0.27	0.27	0.38	0.95	0.49
s, saturation flow rate [veh/h]	1714	1900	1799	1714	1900	1895	71	996	1615
c, Capacity [veh/h]	20	571	541	250	826	824	81	507	717
d1, Uniform Delay [s]	53.96	38.45	38.45	46.96	24.21	24.22	27.28	33.72	30.56
k, delay calibration	0.11	0.50	0.50	0.39	0.50	0.50	0.36	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.13	334.91	378.61	334.31	3.64	3.66	7.75	394.76	65.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.44	1.73	1.83	1.71	0.63	0.63	0.33	1.86	1.10
d, Delay for Lane Group [s/veh]	68.10	373.37	417.07	381.26	27.85	27.87	35.03	428.48	95.76
Lane Group LOS	E	F	F	F	C	C	D	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	68.24	71.17	30.04	11.16	11.15	0.56	69.68	31.17
50th-Percentile Queue Length [ft/ln]	8.19	1706.02	1779.15	751.11	279.10	278.74	14.01	1741.88	779.17
95th-Percentile Queue Length [veh/ln]	0.59	105.56	111.12	47.21	16.64	16.63	1.01	112.95	43.31
95th-Percentile Queue Length [ft/ln]	14.74	2638.99	2778.12	1180.18	416.09	415.64	25.22	2823.81	1082.73

**Movement, Approach, & Intersection Results**

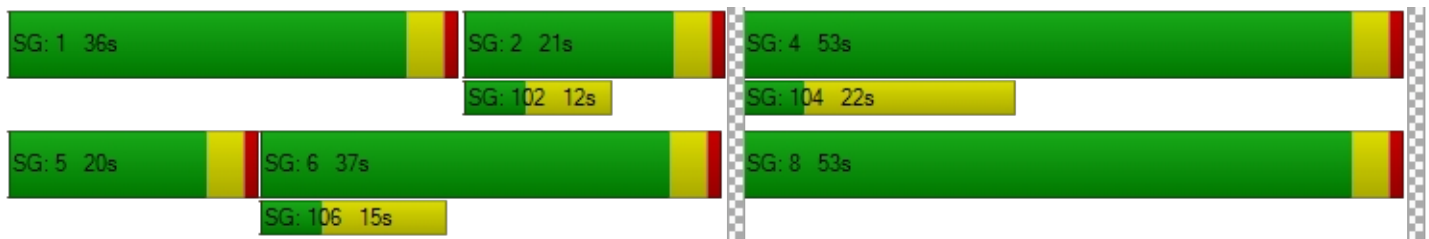
d_M, Delay for Movement [s/veh]	68.10	391.07	417.07	381.26	27.86	27.87	35.03	35.03	35.03	428.48	428.48	95.76
Movement LOS	E	F	F	F	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	393.73			131.00			35.03			276.79		
Approach LOS	F			F			D			F		
d_I, Intersection Delay [s/veh]	278.91											
Intersection LOS	F											
Intersection V/C	1.747											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.36	46.36	46.36
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.150	1.759	3.229
Crosswalk LOS	F	C	A	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	309	891	891
d_b, Bicycle Delay [s]	26.94	39.31	16.91	16.91
I_b,int, Bicycle LOS Score for Intersection	3.278	2.774	1.606	4.835
Bicycle LOS	C	C	A	E

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	127.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.150

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	68	1187	807	651	1113	58	40	50	23	401	158	806
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	30	11	0	0	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	202	0	0	15	0	0	6	0	0	205
Total Hourly Volume [veh/h]	68	1193	605	681	1124	43	40	50	17	401	158	616
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	314	159	179	296	11	11	13	4	106	42	162
Total Analysis Volume [veh/h]	72	1256	637	717	1183	45	42	53	18	422	166	648
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	165
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	12	56	0	53	97	0	0	10	0	0	46	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	165	165	165	165	165	165	165	165	165
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	52	52	49	93	93	6	6	42
g / C, Green / Cycle	0.05	0.31	0.31	0.30	0.56	0.56	0.04	0.04	0.25
(v / s)_i Volume / Saturation Flow Rate	0.04	0.35	0.39	0.40	0.33	0.03	0.02	0.04	0.32
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1819	1834
c, Capacity [veh/h]	88	1138	508	537	2036	909	68	68	467
d1, Uniform Delay [s]	77.77	56.53	56.53	58.03	23.44	16.23	78.27	79.41	61.50
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.69	59.64	129.46	163.57	1.22	0.10	9.00	63.38	133.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.82	1.10	1.25	1.34	0.58	0.05	0.62	1.05	1.26
d, Delay for Lane Group [s/veh]	94.46	116.17	185.99	221.59	24.66	16.33	87.27	142.80	194.84
Lane Group LOS	F	F	F	F	C	B	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.46	33.12	39.42	46.77	15.41	0.82	1.94	4.10	36.87
50th-Percentile Queue Length [ft/ln]	86.52	827.89	985.59	1169.25	385.20	20.48	48.57	102.58	921.75
95th-Percentile Queue Length [veh/ln]	6.23	45.40	56.95	68.34	21.85	1.47	3.50	7.39	53.26
95th-Percentile Queue Length [ft/ln]	155.74	1135.12	1423.82	1708.58	546.14	36.87	87.43	184.64	1331.41

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	94.46	116.17	185.99	221.59	24.66	16.33	87.27	142.80	142.80	194.84	194.84	0.00
Movement LOS	F	F	F	F	C	B	F	F	F	F	F	
d_A, Approach Delay [s/veh]	138.01			97.06			122.16			194.84		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	127.60											
Intersection LOS	F											
Intersection V/C	1.150											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	630			1127			73			509		
d_b, Bicycle Delay [s]	38.69			15.71			76.61			45.84		
I_b,int, Bicycle LOS Score for Intersection	3.347			3.177			1.756			2.530		
Bicycle LOS	C			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	86.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.187

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	16	7	460	15	828	565	641	9	8	721	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	30	0	0	15	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	207	0	0	2	0	0	100
Total Hourly Volume [veh/h]	13	16	5	460	15	621	565	671	7	8	736	301
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	1	121	4	163	149	177	2	2	194	79
Total Analysis Volume [veh/h]	14	17	5	484	16	654	595	706	7	8	775	317
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	21	31	0	9	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	26	26	17	31	31	1	15	15
g / C, Green / Cycle	0.37	0.37	0.37	0.24	0.45	0.45	0.01	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.16	0.64	0.40	0.33	0.20	0.00	0.00	0.21	0.20
s, saturation flow rate [veh/h]	224	776	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	155	391	603	440	1609	718	19	769	343
d1, Uniform Delay [s]	17.81	25.35	21.95	26.51	13.41	10.84	34.42	27.57	27.01
k, delay calibration	0.50	0.50	0.50	0.28	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.49	144.19	61.93	167.44	0.19	0.01	13.36	16.98	10.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.23	1.28	1.09	1.35	0.44	0.01	0.41	1.01	0.92
d, Delay for Lane Group [s/veh]	21.29	169.53	83.88	193.95	13.60	10.85	47.78	44.55	37.48
Lane Group LOS	C	F	F	F	B	B	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.49	22.12	19.33	27.32	3.51	0.06	0.20	7.88	5.89
50th-Percentile Queue Length [ft/ln]	12.31	553.10	483.21	683.02	87.63	1.41	5.09	196.92	147.37
95th-Percentile Queue Length [veh/ln]	0.89	34.46	28.02	41.76	6.31	0.10	0.37	12.53	9.88
95th-Percentile Queue Length [ft/ln]	22.15	861.47	700.42	1043.98	157.74	2.55	9.16	313.22	246.92

**Movement, Approach, & Intersection Results**

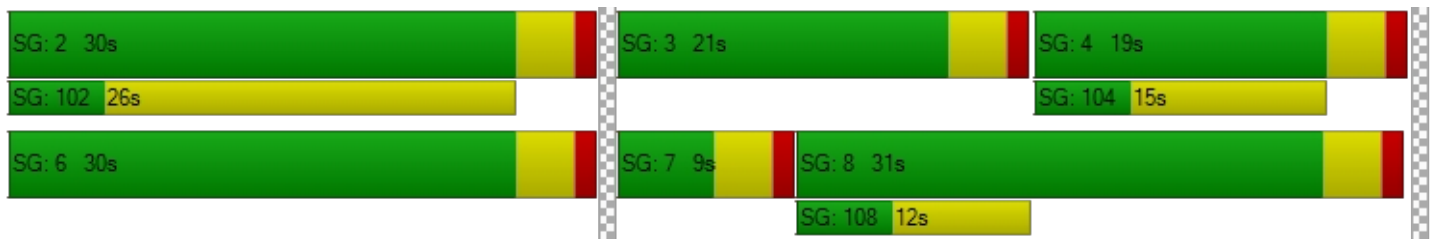
d_M, Delay for Movement [s/veh]	21.29	21.29	21.29	169.53	169.53	83.88	193.95	13.60	10.85	47.78	44.55	37.48
Movement LOS	C	C	C	F	F	F	F	B	B	D	F	D
d_A, Approach Delay [s/veh]	21.29			120.99			95.63			42.54		
Approach LOS	C			F			F			D		
d_I, Intersection Delay [s/veh]	86.79											
Intersection LOS	F											
Intersection V/C	1.187											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.59	26.59	26.59	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.741	3.000	2.945	0.000
Crosswalk LOS	A	C	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	743	743	771	428
d_b, Bicycle Delay [s]	13.84	13.84	13.21	21.61
I_b,int, Bicycle LOS Score for Intersection	1.622	3.805	2.640	2.550
Bicycle LOS	A	D	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	153.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.149

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	80	1117	100	10	1283	4	7	46	329	368	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	0	30	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	1	0	0	82	0	0	13
Total Hourly Volume [veh/h]	80	1132	75	10	1313	3	7	46	247	368	69	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	298	20	3	346	1	2	12	65	97	18	10
Total Analysis Volume [veh/h]	84	1192	79	11	1382	3	7	48	260	387	73	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	230
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	136	0	9	131	0	0	38	0	0	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	230	230	230	230	230	230	230	230	230	230
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	134	134	3	127	127	34	34	43	43
g / C, Green / Cycle	0.04	0.58	0.58	0.01	0.55	0.55	0.15	0.15	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.05	0.63	0.05	0.01	0.73	0.00	0.03	0.16	0.21	0.06
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	1810	1787
c, Capacity [veh/h]	79	1109	943	20	1048	890	281	240	338	334
d1, Uniform Delay [s]	109.97	47.85	20.94	113.14	51.59	23.19	85.83	97.88	93.49	81.20
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	65.87	49.42	0.17	21.67	150.45	0.01	0.34	81.89	94.12	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.07	1.07	0.08	0.55	1.32	0.00	0.20	1.08	1.14	0.34
d, Delay for Lane Group [s/veh]	175.85	97.26	21.11	134.82	202.03	23.19	86.17	179.78	187.61	81.80
Lane Group LOS	F	F	C	F	F	C	F	F	F	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	6.24	78.34	2.01	0.79	103.91	0.08	2.95	19.99	29.24	6.03
50th-Percentile Queue Length [ft/ln]	155.89	1958.62	50.31	19.68	2597.80	1.98	73.63	499.84	731.07	150.74
95th-Percentile Queue Length [veh/ln]	10.52	99.00	3.62	1.42	147.86	0.14	5.30	28.43	40.96	10.06
95th-Percentile Queue Length [ft/ln]	262.93	2474.99	90.56	35.43	3696.44	3.56	132.53	710.64	1024.04	251.42

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	175.85	97.26	21.11	134.82	202.03	23.19	86.17	86.17	179.78	187.61	81.80	81.80
Movement LOS	F	F	C	F	F	C	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	97.70			201.12			163.43			163.54		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	153.23											
Intersection LOS	F											
Intersection V/C	1.149											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	106.16	106.16	106.16	106.16
I_p,int, Pedestrian LOS Score for Intersection	3.062	2.862	2.283	2.223
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1148	1104	296	374
d_b, Bicycle Delay [s]	20.87	23.06	83.50	76.01
I_b,int, Bicycle LOS Score for Intersection	3.837	3.865	2.215	2.408
Bicycle LOS	D	D	B	B

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.597

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	22	1046	228	97	1729	0	0	12	73	206	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	0	30	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	57	0	0	0	0	0	18	0	0	11
Total Hourly Volume [veh/h]	22	1061	171	97	1759	0	0	12	55	206	5	34
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	279	45	26	463	0	0	3	14	54	1	9
Total Analysis Volume [veh/h]	23	1117	180	102	1852	0	0	13	58	217	5	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	23	23	10	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	51	51	6	55	55	4	4	8	8	8
g / C, Green / Cycle	0.03	0.60	0.60	0.07	0.65	0.65	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.31	0.11	0.06	0.49	0.49	0.01	0.04	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1813	1615
c, Capacity [veh/h]	47	2170	969	129	1226	1226	97	82	163	163	145
d1, Uniform Delay [s]	40.92	9.87	7.68	38.92	10.46	10.46	38.64	39.80	37.58	37.58	36.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.51	0.88	0.42	10.11	4.36	4.36	0.62	10.51	4.93	4.91	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.49	0.51	0.19	0.79	0.76	0.76	0.13	0.71	0.68	0.68	0.25
d, Delay for Lane Group [s/veh]	48.43	10.75	8.10	49.02	14.83	14.83	39.26	50.31	42.51	42.49	36.96
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.57	5.55	1.44	2.43	11.35	11.35	0.27	1.42	2.43	2.43	0.72
50th-Percentile Queue Length [ft/ln]	14.21	138.68	35.96	60.63	283.70	283.70	6.82	35.43	60.64	60.72	18.05
95th-Percentile Queue Length [veh/ln]	1.02	9.41	2.59	4.37	16.87	16.87	0.49	2.55	4.37	4.37	1.30
95th-Percentile Queue Length [ft/ln]	25.57	235.24	64.73	109.13	421.82	421.82	12.28	63.78	109.14	109.30	32.48



**Movement, Approach, & Intersection Results**

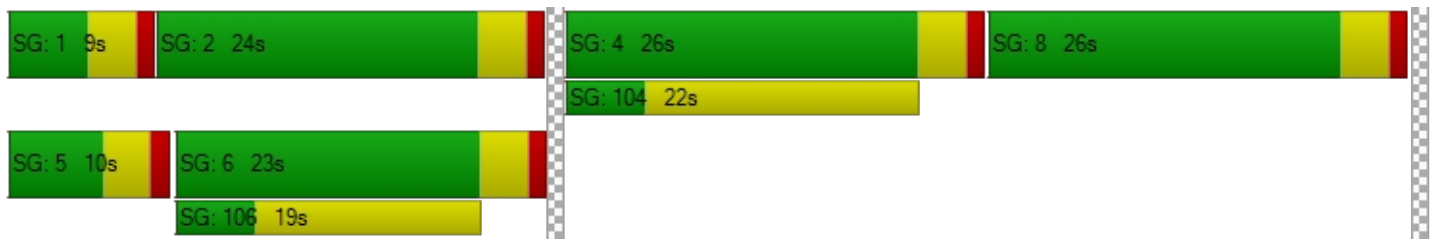
d_M, Delay for Movement [s/veh]	48.43	10.75	8.10	49.02	14.83	14.83	39.26	39.26	50.31	42.50	42.49	36.96
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	11.04			16.61			48.29			41.73		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	16.99											
Intersection LOS	B											
Intersection V/C	0.597											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			34.03			0.00			34.03		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.907			0.000			2.297		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	447			470			517			517		
d_b, Bicycle Delay [s]	25.67			24.90			23.39			23.39		
I_b,int, Bicycle LOS Score for Intersection	2.696			3.172			1.706			2.003		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.713

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	213	659	0	0	1851	170	0	0	0	71	0	739
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	30	0	0	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	43	0	0	0	0	0	189
Total Hourly Volume [veh/h]	213	659	0	0	1881	127	0	0	0	71	0	565
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	173	0	0	495	33	0	0	0	19	0	149
Total Analysis Volume [veh/h]	224	694	0	0	1980	134	0	0	0	75	0	595
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	15	24	0	0	9	0	0	0	0	56	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	80	80	80		80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	11	68	53		4
g / C, Green / Cycle	0.14	0.84	0.66		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.19	0.55		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	250	3053	2372		102
d1, Uniform Delay [s]	33.94	1.21	10.49		37.20
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	10.80	0.17	3.66		9.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.90	0.23	0.83		0.74
d, Delay for Lane Group [s/veh]	44.74	1.38	14.15		47.04
Lane Group LOS	D	A	B		D
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	4.91	0.32	11.60		1.70
50th-Percentile Queue Length [ft/ln]	122.85	8.02	289.97		42.39
95th-Percentile Queue Length [veh/ln]	8.55	0.58	17.18		3.05
95th-Percentile Queue Length [ft/ln]	213.73	14.43	429.61		76.30

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.74	1.38	0.00	0.00	14.15	0.00	0.00	0.00	0.00	0.00	47.04	0.00	0.00
Movement LOS	D	A			B						D		
d_A, Approach Delay [s/veh]	11.96			14.15			0.00			47.04			
Approach LOS	B			B			A			D			
d_I, Intersection Delay [s/veh]	14.30												
Intersection LOS	B												
Intersection V/C	0.713												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			31.53		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.960		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	500			125			0			1299		
d_b, Bicycle Delay [s]	22.52			35.18			40.02			4.91		
I_b,int, Bicycle LOS Score for Intersection	2.317			3.193			4.132			1.560		
Bicycle LOS	B			C			D			A		

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	51.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.921

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			←↑↑			↑↑↑					
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	976	163	512	1954	0	120	0	1165	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	30	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	41	0	0	0	0	0	291	0	0	0
Total Hourly Volume [veh/h]	0	976	122	542	1954	0	120	0	874	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	257	32	143	514	0	32	0	230	0	0	0
Total Analysis Volume [veh/h]	0	1027	128	571	2057	0	126	0	920	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	29	0	30	59	0	31	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	25	26	55	27	27
g / C, Green / Cycle	0.28	0.29	0.61	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.28	0.32	0.57	0.07	0.32
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859
c, Capacity [veh/h]	1005	523	2211	543	857
d1, Uniform Delay [s]	32.53	32.03	15.78	23.73	31.54
k, delay calibration	0.50	0.41	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	33.92	63.45	8.53	0.22	38.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.02	1.09	0.93	0.23	1.07
d, Delay for Lane Group [s/veh]	66.45	95.49	24.31	23.94	70.07
Lane Group LOS	F	F	C	C	F
Critical Lane Group	Yes	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	15.30	20.17	18.93	2.01	13.55
50th-Percentile Queue Length [ft/ln]	382.61	504.33	473.29	50.33	338.63
95th-Percentile Queue Length [veh/ln]	22.01	29.06	26.07	3.62	20.42
95th-Percentile Queue Length [ft/ln]	550.13	726.54	651.68	90.60	510.41

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	66.45	0.00	95.49	24.31	0.00	23.94	0.00	70.07	0.00	0.00	0.00
Movement LOS		F		F	C		C		F			
d_A, Approach Delay [s/veh]	66.45			39.78			64.51			0.00		
Approach LOS	E			D			E			A		
d_I, Intersection Delay [s/veh]	51.11											
Intersection LOS	D											
Intersection V/C	0.921											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			36.47		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.982		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	555			1222			600			0		
d_b, Bicycle Delay [s]	23.49			6.82			22.07			45.02		
I_b,int, Bicycle LOS Score for Intersection	2.407			3.728			1.560			4.132		
Bicycle LOS	B			D			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	26	0	0	29	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	0	4	17	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	0	4	46	0	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	0	1	12	0	2
Total Analysis Volume [veh/h]	63	0	4	48	0	7
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.34	0.00	9.14	8.62
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.20	0.20	0.53	0.53
d_A, Approach Delay [s/veh]	0.00		0.56		8.62	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.74					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	26	0	0	29	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	4	13	0	0	0	0	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	52	0	4	42	0	0	0	0	0	0	8
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	14	0	1	11	0	0	0	0	0	0	2
Total Analysis Volume [veh/h]	0	55	0	4	44	0	0	0	0	0	0	8
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.06	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.07	9.33	8.57	9.08	9.27	8.56	7.23	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.20	0.17	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.95	4.95	4.95	4.24	4.24	4.24	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.33			9.25			2.41			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.62											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	26	0	0	29	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	11	2	11	0	0	0	0	5	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	48	11	2	40	0	0	0	0	5	0	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	3	1	11	0	0	0	0	1	0	1
Total Analysis Volume [veh/h]	0	51	12	2	42	0	0	0	0	5	0	4
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	100

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.28	0.00	0.00	7.32	0.00	0.00	9.11	9.59	8.48	9.12	9.60	8.58
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.10	0.10	0.10	0.00	0.00	0.00	0.73	0.73	0.73
d_A, Approach Delay [s/veh]	0.00			0.33			9.06			8.88		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.82											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	66.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.120

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1205	1974	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	33	17	0	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1238	1991	0	0	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	326	524	0	0	2
Total Analysis Volume [veh/h]	4	1303	2096	0	0	8
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.01	0.02	0.00	0.00	0.12
d_M, Delay for Movement [s/veh]	18.70	0.00	0.00	0.00	0.00	66.47
Movement LOS	C	A	A	A		F
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.39
95th-Percentile Queue Length [ft/ln]	1.14	1.14	0.00	0.00	0.00	9.75
d_A, Approach Delay [s/veh]	0.06		0.00		66.47	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1205	0	0	1974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	8	17	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1216	0	8	1991	0	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	320	0	2	524	0	4
Total Analysis Volume [veh/h]	1280	0	8	2096	0	16
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.02	0.00	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	11.65	0.00	0.00	24.10
Movement LOS	A	A	B	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.00	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.11	1.11	0.00	6.30
d_A, Approach Delay [s/veh]	0.00		0.04		24.10	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	97.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.186

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← →			← →			↑ ↓			↑ ↓		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	1205	0	0	1974	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	11	11	0	22	2	4	0	15	23	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	1	0	0	4	0	0	0
Total Hourly Volume [veh/h]	7	1216	8	0	1996	1	4	0	11	23	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	320	2	0	525	0	1	0	3	6	0	0
Total Analysis Volume [veh/h]	7	1280	8	0	2101	1	4	0	12	24	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	118	0	9	118	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	135	0	133	3	3
g / C, Green / Cycle	0.01	0.90	0.00	0.89	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.00	0.72	0.00	1.17	0.01	0.01
s, saturation flow rate [veh/h]	1714	1798	1714	1800	1746	1701
c, Capacity [veh/h]	15	1615	1	1602	67	84
d1, Uniform Delay [s]	73.95	2.74	0.00	8.26	72.47	72.80
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.71	4.20	0.00	145.20	1.79	1.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.47	0.80	0.00	1.31	0.24	0.28
d, Delay for Lane Group [s/veh]	94.66	6.94	0.00	153.46	74.27	74.62
Lane Group LOS	F	A	A	F	E	E
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.35	4.88	0.00	89.17	0.65	0.96
50th-Percentile Queue Length [ft/ln]	8.79	122.01	0.00	2229.34	16.13	24.12
95th-Percentile Queue Length [veh/ln]	0.63	8.50	0.00	131.61	1.16	1.74
95th-Percentile Queue Length [ft/ln]	15.83	212.58	0.00	3290.16	29.04	43.42

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	94.66	6.94	6.94	0.00	153.46	153.46	74.27	74.27	74.27	74.62	74.62	74.62
Movement LOS	F	A	A	A	F	F	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	7.41			153.46			74.27			74.62		
Approach LOS	A			F			E			E		
d_I, Intersection Delay [s/veh]	97.51											
Intersection LOS	F											
Intersection V/C	1.186											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	66.25			66.25			66.25			66.25		
I_p,int, Pedestrian LOS Score for Intersection	3.681			3.074			1.760			1.757		
Crosswalk LOS	D			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1520			1520			253			253		
d_b, Bicycle Delay [s]	4.31			4.31			57.18			57.18		
I_b,int, Bicycle LOS Score for Intersection	3.701			5.030			1.593			1.599		
Bicycle LOS	D			F			A			A		

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	47.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	1258	351	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	8	4	53	25	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	8	4	1311	376	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	1	345	99	1
Total Analysis Volume [veh/h]	7	8	4	1380	396	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	47.48	12.64	8.09	0.00	0.00	0.00
Movement LOS	E	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.36	7.36	0.26	0.26	0.00	0.00
d_A, Approach Delay [s/veh]	28.90		0.02		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	E					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	99	76	76	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	4	4	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	101	80	80	8	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	27	21	21	2	0
Total Analysis Volume [veh/h]	0	106	84	84	8	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.53	0.00	0.00	0.00	9.78	8.92
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.80	0.80
d_A, Approach Delay [s/veh]	0.00		0.00		9.78	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	27	0	0	31	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	4	0	15	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	4	0	46	8	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	1	0	12	2	0
Total Analysis Volume [veh/h]	36	4	0	48	8	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.27	0.00	8.95	8.50
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.66	0.66
d_A, Approach Delay [s/veh]	0.00		0.00		8.95	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.75					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	27	0	0	31	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	2	0	22	0	0	0	0	3	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	38	2	0	53	0	0	0	0	3	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	1	0	14	0	0	0	0	1	0	0
Total Analysis Volume [veh/h]	0	40	2	0	56	0	0	0	0	3	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.31	0.00	0.00	7.28	0.00	0.00	9.04	9.52	8.54	9.06	9.53	8.49
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25
d_A, Approach Delay [s/veh]	0.00			0.00			9.04			9.06		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.27											
Intersection LOS	A											

**Intersection Level Of Service Report**  
**Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	19.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	927	357	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	85	42	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	1012	399	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	266	105	1
Total Analysis Volume [veh/h]	8	0	0	1065	420	4
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	19.28	9.94	8.14	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.37	2.37	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.28		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	168	169	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	168	169	0	0	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	44	44	0	0	4
Total Analysis Volume [veh/h]	8	177	178	0	0	16
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.57	0.00	0.00	0.00	10.80	9.21
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.43	0.43	0.00	0.00	1.40	1.40
d_A, Approach Delay [s/veh]	0.33		0.00		9.21	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.55					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	168	169	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	8	15	0	0	12
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	176	184	0	0	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	46	48	0	0	3
Total Analysis Volume [veh/h]	6	185	194	0	0	13
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.60	0.00	0.00	0.00	10.93	9.29
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.32	0.32	0.00	0.00	1.16	1.16
d_A, Approach Delay [s/veh]	0.24		0.00		9.29	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.42					
Intersection LOS	A					



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**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	838	2889	1153	592	1361	882	976	577	523	605	10396

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	166	3204	386	1557	1307	145	1200	1714	129	185	307	1746	12046

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	2927	25	59	1619	15	88	4733

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	237	2460	480	561	1242	97	218	1123	221	218	156	222	7235

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	27	9	31	58	7	34	23	2304	26	17	427	17	2980

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	161	904	172	51	708	17	75	1577	1221	62	217	56	5221

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	788	158	1083	663	48	353	3093

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	95	8	11	13	16	98	141	756	55	13	792	22	2020

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	48	8	13	1305	372	27	1773

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	59	31	10	65	61	70	85	766	169	8	349	66	1739

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	531	2967	1467	637	604	7	1013	7226

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	2485	561	489	1617	582	2	253	5989

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	1	2759	2	39	1610	234	795	11	83	1	2	121	5658

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	82	1886	66	575	1008	151	396	571	124	27	204	478	5568

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	139	1312	32	76	810	90	620	375	446	26	131	68	4125

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	306	1356	249	135	1241	78	103	336	249	125	85	76	4339

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	549	1820	20	73	1364	239	168	74	96	18	45	15	4481

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	630	1873	14	52	1364	86	113	22	566	29	22	17	4788

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	1576	399	408	982	9	13	9	5	880	17	1001	5308

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	68	1193	807	681	1124	58	40	50	23	401	158	821	5424

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	16	7	460	15	828	565	671	9	8	736	401	3729

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	80	1132	100	10	1313	4	7	46	329	368	69	52	3510

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	22	1061	228	97	1759	0	0	12	73	206	5	45	3508

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	213	659	1881	170	71	754	3748

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	976	163	542	1954	120	1165	4920

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	60	0	4	46	0	7	117

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	Laurel Ave/Driveway 2	0	52	0	4	42	0	0	0	0	0	0	8	106

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	48	11	2	40	0	0	0	0	5	0	4	110

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	4	1238	1991	0	8	3241	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	1216	0	8	1991	15	3230	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	7	1216	11	0	1996	2	4	0	15	23	0	0	3274

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	7	8	4	1311	376	4	1710

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	101	80	80	8	0	269

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	34	4	0	46	8	0	92

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	38	2	0	53	0	0	0	0	3	0	0	96

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	8	0	0	1012	399	4	1423

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	8	168	169	0	0	15	360

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	6	176	184	0	0	12	378

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**Intersection Analysis Summary**

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Sierra Ave/I-10 Ramps	Signalized	HCM 6th Edition	NB Thru	1.058	108.7	F
2	Sierra Ave/Slover Ave	Signalized	HCM 6th Edition	EB Left	1.683	367.7	F
3	Sierra Ave/Technology St	Signalized	HCM 6th Edition	WB Right	0.659	6.7	A
4	Sierra Ave/Santa Ana Ave	Signalized	HCM 6th Edition	SB Left	1.125	128.8	F
5	Laurel Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	3.716	974.1	F
6	Locust Ave/Santa Ana Ave	All-way stop	HCM 6th Edition	EB Thru	7.781	2,039.6	F
7	Locust Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	WB Right	1.147	10,000.0	F
8	Maple Ave/Santa Ana Ave	Two-way stop	HCM 6th Edition	NB Left	8.129	3,860.9	F
9	Maple Ave/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.742	124.6	F
10	Linden Ave/Jurupa Ave	All-way stop	HCM 6th Edition	EB Thru	1.687	172.0	F
11	Cedar Ave/I-10 WB Ramp	Signalized	HCM 6th Edition	WB Right	1.314	164.4	F
12	Cedar Ave/I-10 EB Ramps	Signalized	HCM 6th Edition	EB Right	1.051	90.3	F
13	Cedar Ave/Orange St	Signalized	HCM 6th Edition	NB Right	1.419	225.2	F
14	Cedar Ave/Slover Ave	Signalized	HCM 6th Edition	NB Right	1.377	210.5	F
15	Cedar Ave/Santa Ana Ave	Signalized	HCM 6th Edition	NB Right	1.421	228.0	F
16	Cedar Ave/Jurupa Ave	Signalized	HCM 6th Edition	EB Thru	2.594	273.9	F
17	Cedar Ave/11th St	Signalized	HCM 6th Edition	SB Right	1.002	67.0	E
			HCM 6th				



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18	Cedar Ave/7th St	Signalized	HCM 6th Edition	SB Right	1.155	112.9	F
19	Cedar Ave/EI Rivino Rd	Signalized	HCM 6th Edition	WB Left	1.749	279.9	F
20	Rubidoux Blvd/Market St	Signalized	HCM 6th Edition	SB Left	1.155	129.0	F
21	Agua Mansa Rd/Market St	Signalized	HCM 6th Edition	EB Left	1.189	87.0	F
22	Market St/24th St	Signalized	HCM 6th Edition	SB Thru	1.154	155.5	F
23	Market St/Rivera St	Signalized	HCM 6th Edition	EB Right	0.600	17.1	B
24	Market St/SR-60 WB Ramp	Signalized	HCM 6th Edition	WB Left	0.715	14.4	B
25	Market St/SR-60 EB Ramp	Signalized	HCM 6th Edition	SB Left	0.926	52.0	D
26	Laurel Ave/Driveway 1	Two-way stop	HCM 6th Edition	WB Right	0.021	8.7	A
27	Laurel Ave/Driveway 2	Two-way stop	HCM 6th Edition	NB Thru	0.071	9.3	A
28	Laurel Ave/Driveway 3	Two-way stop	HCM 6th Edition	WB Left	0.009	9.3	A
29	Locust Ave/Driveway 4	Two-way stop	HCM 6th Edition	EB Right	0.167	70.5	F
30	Locust Ave/Driveway 5	Two-way stop	HCM 6th Edition	WB Right	0.103	24.7	C
31	Locust Ave/Driveway 6	Signalized	HCM 6th Edition	SB Thru	1.196	101.6	F
32	Driveway 7/Jurupa Ave	Two-way stop	HCM 6th Edition	SB Left	0.130	51.5	F
33	Maple Avenue/Driveway 8	Two-way stop	HCM 6th Edition	EB Left	0.015	9.8	A
34	Maple Ave/Driveway 9	Two-way stop	HCM 6th Edition	WB Left	0.012	9.0	A
35	Maple Ave/Driveway 10	Two-way stop	HCM 6th Edition	WB Left	0.005	9.1	A
36	Driveway 11/Jurupa Valley	Two-way stop	HCM 6th Edition	SB Left	0.044	20.1	C
37	Linden Ave/Driveway 12	Two-way stop	HCM 6th Edition	EB Right	0.024	9.2	A
38	Linden Ave/Driveway 13	Two-way stop	HCM 6th Edition	EB Right	0.020	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report  
Intersection 1: Sierra Ave/I-10 Ramps**

Control Type:	Signalized	Delay (sec / veh):	108.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.058

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	0	2	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	565.00	100.00	100.00	325.00	100.00	305.00	1205.00	100.00	1500.00	1200.00	100.00	560.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	390.00	0.00	0.00	665.00	0.00	0.00	1215.00	0.00	0.00	1150.00
Speed [mph]	40.00			35.00			65.00			65.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	800	2874	1153	592	1354	882	976	0	558	523	0	605
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	50	20	0	0	11	0	0	0	28	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	288	0	0	221	0	0	147	0	0	151
Total Hourly Volume [veh/h]	850	2894	865	592	1365	661	976	0	439	523	0	454
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	224	762	228	156	359	174	257	0	116	138	0	119
Total Analysis Volume [veh/h]	895	3046	911	623	1437	696	1027	0	462	551	0	478
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		2			4			3			3	
v_ci, Inbound Pedestrian Volume crossing mi		3			3			4			2	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	40	59	0	23	42	0	48	0	0	48	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	L	L
C, Cycle Length [s]	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	58	19	42	41	41
g / C, Green / Cycle	0.27	0.45	0.15	0.33	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.25	0.59	0.18	0.28	0.29	0.16
s, saturation flow rate [veh/h]	3514	5176	3514	5176	3514	3514
c, Capacity [veh/h]	945	2324	515	1691	1096	1096
d1, Uniform Delay [s]	46.57	35.78	55.42	40.76	43.44	36.46
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.88	143.01	98.34	5.57	4.53	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.95	1.31	1.21	0.85	0.94	0.50
d, Delay for Lane Group [s/veh]	52.45	178.79	153.77	46.34	47.97	36.82
Lane Group LOS	D	F	F	D	D	D
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	14.61	54.04	15.40	14.94	15.45	6.70
50th-Percentile Queue Length [ft/ln]	365.16	1351.05	384.96	373.45	386.32	167.56
95th-Percentile Queue Length [veh/ln]	20.87	79.07	23.72	21.28	21.90	10.95
95th-Percentile Queue Length [ft/ln]	521.85	1976.81	593.03	531.92	547.49	273.71

**Movement, Approach, & Intersection Results**

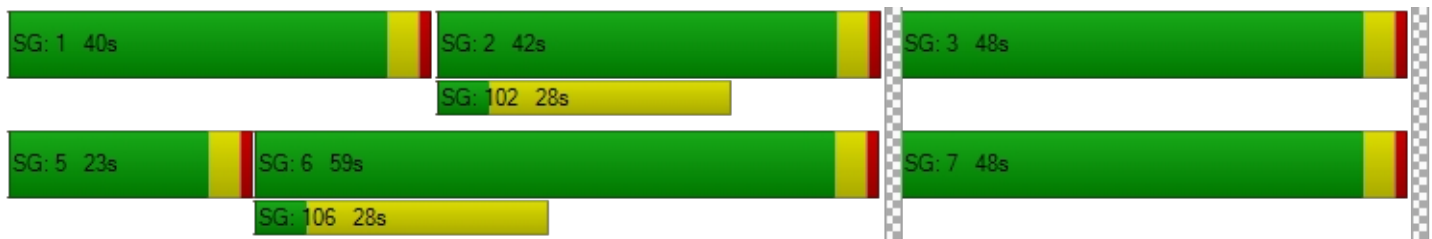
d_M, Delay for Movement [s/veh]	52.45	178.79	0.00	153.77	46.34	0.00	47.97	0.00	0.00	36.82	0.00	0.00
Movement LOS	D	F		F	D		D			D		
d_A, Approach Delay [s/veh]	150.10			78.83			47.97			36.82		
Approach LOS	F			E			D			D		
d_I, Intersection Delay [s/veh]	108.65											
Intersection LOS	F											
Intersection V/C	1.058											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	56.28	56.28
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	3.148	2.885
Crosswalk LOS	F	F	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	847	585	677	677
d_b, Bicycle Delay [s]	21.61	32.53	28.42	28.42
I_b,int, Bicycle LOS Score for Intersection	3.727	2.693	1.560	1.560
Bicycle LOS	D	B	A	A

**Sequence**

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 2: Sierra Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	367.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.683

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	1	0	0	2	0	1	2	0	1
Entry Pocket Length [ft]	265.00	100.00	675.00	675.00	100.00	100.00	345.00	100.00	320.00	275.00	100.00	465.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600.00	0.00	0.00	0.00
Speed [mph]	50.00			40.00			45.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	166	3151	386	1557	1280	145	1200	1714	129	185	307	1746
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	71	0	0	39	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	97	0	0	36	0	0	32	0	0	437
Total Hourly Volume [veh/h]	166	3222	289	1557	1319	109	1200	1714	97	185	307	1309
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	848	76	410	347	29	316	451	26	49	81	344
Total Analysis Volume [veh/h]	175	3392	304	1639	1388	115	1263	1804	102	195	323	1378
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	12	40	0	28	56	0	22	53	0	9	40	40
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00
g_i, Effective Green Time [s]	8	36	36	24	52	52	18	49	49	5	36	64
g / C, Green / Cycle	0.06	0.28	0.28	0.18	0.40	0.40	0.14	0.38	0.38	0.04	0.28	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.52	0.55	0.47	0.27	0.28	0.36	0.50	0.06	0.06	0.09	0.48
s, saturation flow rate [veh/h]	3514	5176	1802	3514	3618	1828	3514	3618	1615	3514	3618	2859
c, Capacity [veh/h]	217	1438	501	649	1450	733	487	1360	607	135	998	1405
d1, Uniform Delay [s]	60.24	46.94	46.94	53.00	32.07	32.55	56.00	40.57	27.02	62.50	37.42	32.47
k, delay calibration	0.11	0.50	0.50	0.46	0.50	0.50	0.29	0.21	0.11	0.11	0.11	0.36
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.00	399.00	448.24	690.94	2.59	5.66	721.18	149.23	0.13	206.67	0.19	16.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.81	1.88	1.98	2.53	0.68	0.71	2.59	1.33	0.17	1.44	0.32	0.98
d, Delay for Lane Group [s/veh]	67.24	445.94	495.19	743.94	34.66	38.21	777.18	189.79	27.15	269.17	37.60	48.91
Lane Group LOS	E	F	F	F	C	D	F	F	C	F	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.98	67.92	77.82	72.65	12.92	14.37	56.53	48.84	2.09	6.07	3.99	22.58
50th-Percentile Queue Length [ft/ln]	74.55	1698.08	1945.41	1816.27	323.04	359.32	1413.31	1220.92	52.14	151.70	99.68	564.39
95th-Percentile Queue Length [veh/ln]	5.37	106.33	121.87	113.41	18.82	20.59	87.94	71.76	3.75	10.92	7.18	30.37
95th-Percentile Queue Length [ft/ln]	134.18	2658.35	3046.79	2835.23	470.43	514.76	2198.40	1794.01	93.85	273.07	179.42	759.19

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	67.24	455.92	495.19	743.94	35.69	38.21	777.18	189.79	27.15	269.17	37.60	48.91
Movement LOS	E	F	F	F	D	D	F	F	C	F	D	D
d_A, Approach Delay [s/veh]	441.44			405.24			418.66			69.64		
Approach LOS	F			F			F			E		
d_I, Intersection Delay [s/veh]	367.68											
Intersection LOS	F											
Intersection V/C	1.683											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	4.033	4.313	3.494	4.605
Crosswalk LOS	D	E	C	E
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	554	800	754	554
d_b, Bicycle Delay [s]	33.99	23.40	25.24	33.99
I_b,int, Bicycle LOS Score for Intersection	3.196	3.308	4.200	3.484
Bicycle LOS	C	C	D	C

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 3: Sierra Ave/Technology St**

Control Type:	Signalized	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.659

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↑↑↑↔		↔↑↑↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	2	0	1	0
Entry Pocket Length [ft]	100.00	100.00	355.00	100.00	300.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	275.00
Speed [mph]	50.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		Yes		Yes	

**Volumes**

Name						
Base Volume Input [veh/h]	2874	25	59	1592	15	88
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	71	0	0	39	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	6	0	0	0	22
Total Hourly Volume [veh/h]	2945	19	59	1631	15	66
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	775	5	16	429	4	17
Total Analysis Volume [veh/h]	3100	20	62	1717	16	69
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	6	0	5	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	5	0	5	5	5	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	23	0	9	32	88	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	14	0	0	10	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	97	97	4	105	7	7
g / C, Green / Cycle	0.81	0.81	0.04	0.88	0.06	0.06
(v / s)_i Volume / Saturation Flow Rate	0.60	0.01	0.02	0.33	0.01	0.04
s, saturation flow rate [veh/h]	5176	1615	3514	5176	1810	1615
c, Capacity [veh/h]	4172	1302	129	4535	103	92
d1, Uniform Delay [s]	5.63	2.29	56.65	1.38	53.80	55.70
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.23	0.02	2.74	0.24	0.69	11.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.74	0.02	0.48	0.38	0.15	0.75
d, Delay for Lane Group [s/veh]	6.86	2.31	59.39	1.62	54.48	67.05
Lane Group LOS	A	A	E	A	D	E
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.34	0.06	0.97	1.16	0.48	2.35
50th-Percentile Queue Length [ft/ln]	183.40	1.54	24.29	29.08	12.01	58.70
95th-Percentile Queue Length [veh/ln]	11.78	0.11	1.75	2.09	0.86	4.23
95th-Percentile Queue Length [ft/ln]	294.44	2.78	43.71	52.35	21.62	105.67



**Movement, Approach, & Intersection Results**

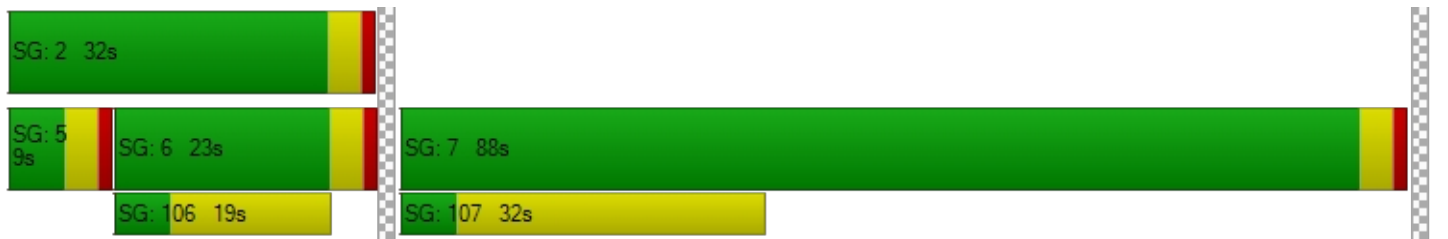
d_M, Delay for Movement [s/veh]	6.86	2.31	59.39	1.62	54.48	67.05
Movement LOS	A	A	E	A	D	E
d_A, Approach Delay [s/veh]	6.83		3.63		64.68	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	6.68					
Intersection LOS	A					
Intersection V/C	0.659					

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.33	51.33
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.346	2.225
Crosswalk LOS	F	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	317	467	1400
d_b, Bicycle Delay [s]	42.50	35.26	5.40
I_b,int, Bicycle LOS Score for Intersection	3.279	2.538	1.560
Bicycle LOS	C	B	A

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 4: Sierra Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	128.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.125

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	2	0	1	2	0	0	1	0	1	1	0	1
Entry Pocket Length [ft]	285.00	100.00	210.00	375.00	100.00	100.00	240.00	100.00	100.00	300.00	100.00	350.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	237	2460	480	534	1242	97	218	1123	221	218	156	169
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	0	0	0	0	0	0	71
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	120	0	0	24	0	0	55	0	0	60
Total Hourly Volume [veh/h]	237	2460	360	573	1242	73	218	1123	166	218	156	180
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	647	95	151	327	19	57	296	44	57	41	47
Total Analysis Volume [veh/h]	249	2589	379	603	1307	77	229	1182	175	229	164	189
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	53	0	20	58	0	21	40	0	17	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	49	49	16	54	54	17	36	36	13	32	32
g / C, Green / Cycle	0.08	0.38	0.38	0.12	0.42	0.42	0.13	0.28	0.28	0.10	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.50	0.23	0.17	0.25	0.25	0.13	0.33	0.11	0.13	0.05	0.12
s, saturation flow rate [veh/h]	3514	5176	1615	3514	3618	1846	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	298	1956	610	433	1506	769	237	998	446	181	887	396
d1, Uniform Delay [s]	58.61	40.44	32.87	57.00	29.64	29.68	56.22	47.07	38.23	58.50	38.80	41.95
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.12	0.15	0.11	0.12	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.18	149.39	4.70	180.27	1.83	3.59	21.69	86.41	0.56	129.54	0.10	0.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.84	1.32	0.62	1.39	0.61	0.61	0.97	1.18	0.39	1.26	0.18	0.48
d, Delay for Lane Group [s/veh]	64.79	189.83	37.58	237.26	31.48	33.27	77.91	133.48	38.79	188.04	38.90	42.84
Lane Group LOS	E	F	D	F	C	C	E	F	D	F	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.30	47.59	10.50	17.93	11.54	12.21	8.90	28.00	4.63	12.47	2.10	5.31
50th-Percentile Queue Length [ft/ln]	107.45	1189.70	262.56	448.35	288.43	305.21	222.49	699.92	115.81	311.84	52.61	132.81
95th-Percentile Queue Length [veh/ln]	7.70	70.01	15.82	28.19	17.11	17.94	13.79	40.49	8.16	19.89	3.79	9.09
95th-Percentile Queue Length [ft/ln]	192.45	1750.36	395.44	704.67	427.69	448.47	344.80	1012.26	204.06	497.17	94.70	227.30

**Movement, Approach, & Intersection Results**

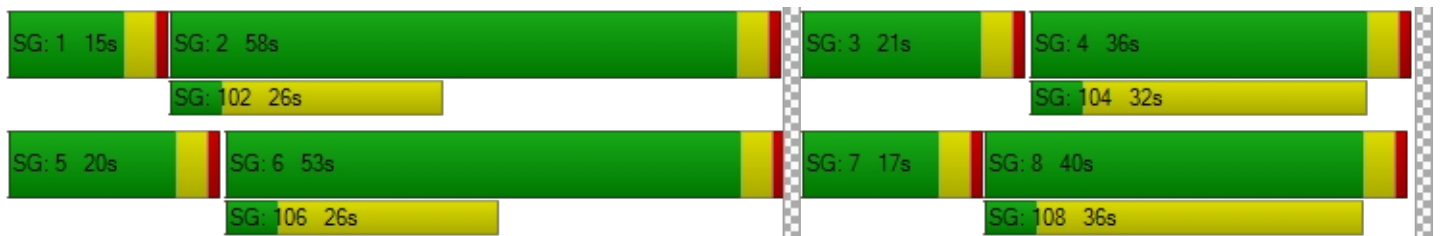
d_M, Delay for Movement [s/veh]	64.79	189.83	37.58	237.26	32.01	33.27	77.91	133.48	38.79	188.04	38.90	42.84
Movement LOS	E	F	D	F	C	C	E	F	D	F	D	D
d_A, Approach Delay [s/veh]	162.22			94.35			115.01			98.86		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	128.77											
Intersection LOS	F											
Intersection V/C	1.125											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	56.31	56.31	56.31	56.31
I_p,int, Pedestrian LOS Score for Intersection	3.592	3.397	2.900	3.033
Crosswalk LOS	D	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	754	831	554	492
d_b, Bicycle Delay [s]	25.24	22.22	33.99	36.94
I_b,int, Bicycle LOS Score for Intersection	3.395	2.666	2.913	2.089
Bicycle LOS	C	B	C	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 5: Laurel Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	974.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.716

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	1	9	16	58	7	34	23	2287	13	9	394	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	20	0	0	0	0	24	20	11	44	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	9	36	58	7	34	23	2311	33	20	438	17
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	2	9	15	2	9	6	608	9	5	115	4
Total Analysis Volume [veh/h]	39	9	38	61	7	36	24	2433	35	21	461	18
Pedestrian Volume [ped/h]	0			0			0			0		

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**Intersection Settings****Lanes**

Capacity per Entry Lane [veh/h]	516	515	2492	651
Degree of Utilization, x	0.17	0.20	3.72	0.77

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.59	0.75	231.71	7.20
95th-Percentile Queue Length [ft]	14.85	18.69	5792.83	180.02
Approach Delay [s/veh]	11.37	11.74	1238.01	24.46
Approach LOS	B	B	F	C
Intersection Delay [s/veh]	974.09			
Intersection LOS	F			



**Intersection Level Of Service Report  
Intersection 6: Locust Ave/Santa Ana Ave**

Control Type:	All-way stop	Delay (sec / veh):	2,039.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	7.781

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	143	897	165	51	704	17	75	1555	1212	58	195	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	10	10	0	6	0	0	31	14	6	31	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	907	175	51	710	17	75	1586	1226	64	226	56
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	239	46	13	187	4	20	417	323	17	59	15
Total Analysis Volume [veh/h]	177	955	184	54	747	18	79	1669	1291	67	238	59
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	1316	819	3039	379
Degree of Utilization, x	3.44	2.15	7.78	0.96

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	120.76	59.96	334.46	10.80
95th-Percentile Queue Length [ft]	3019.06	1499.00	8361.54	269.90
Approach Delay [s/veh]	1123.38	548.68	3074.22	68.43
Approach LOS	F	F	F	F
Intersection Delay [s/veh]	2039.58			
Intersection LOS	F			

**Intersection Level Of Service Report  
Intersection 7: Locust Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.147

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name						
Base Volume Input [veh/h]	784	154	1030	655	40	328
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	6	66	10	10	35
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	790	160	1096	665	50	363
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	208	42	288	175	13	96
Total Analysis Volume [veh/h]	832	168	1154	700	53	382
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	1.65	0.01	0.00	1.15
d_M, Delay for Movement [s/veh]	0.00	0.00	314.31	0.00	10000.00	10000.00
Movement LOS	A	A	F	A	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	63.53	63.53	57.23	57.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1588.36	1588.36	1430.64	1430.64
d_A, Approach Delay [s/veh]	0.00		195.64		10000.00	
Approach LOS	A		F		F	
d_I, Intersection Delay [s/veh]	1432.87					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 8: Maple Ave/Santa Ana Ave**

Control Type:	Two-way stop	Delay (sec / veh):	3,860.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	8.129

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name												
Base Volume Input [veh/h]	80	8	11	13	16	98	141	734	47	13	780	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	20	0	0	0	0	0	0	30	11	0	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	8	11	13	16	98	141	764	58	13	797	22
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	2	3	3	4	26	37	201	15	3	210	6
Total Analysis Volume [veh/h]	105	8	12	14	17	103	148	804	61	14	839	23
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	8.13	0.22	0.03	0.56	0.48	0.28	0.19	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	3860.93	3682.15	3591.93	388.74	346.67	253.88	10.62	0.00	0.00	9.66	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	16.59	16.59	16.59	9.48	9.48	9.48	0.69	0.69	0.69	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	414.68	414.68	414.68	236.88	236.88	236.88	17.18	17.18	17.18	1.36	1.36	1.36
d_A, Approach Delay [s/veh]	3823.66			279.74			1.55			0.15		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	240.76											
Intersection LOS	F											

**Intersection Level Of Service Report  
Intersection 9: Maple Ave/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	124.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.742

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	23	8	13	1245	343	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	33	0	0	75	41	18
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	8	13	1320	384	32
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	2	3	347	101	8
Total Analysis Volume [veh/h]	59	8	14	1389	404	34
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.74	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	124.59	84.99	8.22	0.00	0.00	0.00
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.83	3.83	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	95.75	95.75	0.94	0.94	0.00	0.00
d_A, Approach Delay [s/veh]	119.86		0.08		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	4.27					
Intersection LOS	F					



**Intersection Level Of Service Report  
Intersection 10: Linden Ave/Jurupa Ave**

Control Type:	All-way stop	Delay (sec / veh):	172.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.687

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+r			+r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	840.00	100.00	100.00	250.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	59	31	10	38	61	70	85	673	169	8	304	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	36	0	0	0	118	0	0	63	20
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	31	10	74	61	70	85	791	169	8	367	72
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	8	3	19	16	18	22	208	44	2	97	19
Total Analysis Volume [veh/h]	62	33	11	78	64	74	89	833	178	8	386	76
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	472	515	922	619	530	591
Degree of Utilization, x	0.22	0.42	1.69	0.29	0.74	0.13

**Movement, Approach, & Intersection Results**

95th-Percentile Queue Length [veh]	0.85	2.06	53.40	1.19	6.34	0.44
95th-Percentile Queue Length [ft]	21.29	51.44	1334.96	29.68	158.62	10.99
Approach Delay [s/veh]	12.81	14.97	281.49		23.94	
Approach LOS	B	B	F		C	
Intersection Delay [s/veh]	172.03					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 11: Cedar Ave/I-10 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	164.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.314

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	485.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	560.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	498	2952	0	0	1459	637	0	0	0	585	7	1013
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	42	19	0	0	11	0	0	0	0	27	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	159	0	0	0	0	0	253
Total Hourly Volume [veh/h]	540	2971	0	0	1470	478	0	0	0	612	7	760
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	142	782	0	0	387	126	0	0	0	161	2	200
Total Analysis Volume [veh/h]	568	3127	0	0	1547	503	0	0	0	644	7	800
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0
v_di, Inbound Pedestrian Volume crossing in		0			0				0			0
v_co, Outbound Pedestrian Volume crossing		0			0				0			0
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0
Bicycle Volume [bicycles/h]		0			0				0			0

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	33	74	0	0	41	0	0	0	0	0	41	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	R		C	R
C, Cycle Length [s]	115	115	115	115		115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00		2.00	2.00
g_i, Effective Green Time [s]	29	70	37	37		37	37
g / C, Green / Cycle	0.25	0.61	0.32	0.32		0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.33	0.86	0.30	0.31		0.41	0.45
s, saturation flow rate [veh/h]	1714	3618	5176	1615		1788	1615
c, Capacity [veh/h]	433	2202	1665	520		575	519
d1, Uniform Delay [s]	42.97	22.48	37.72	38.41		38.99	38.99
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00
d2, Incremental Delay [s]	156.62	191.64	10.63	32.35		131.23	190.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00

**Lane Group Results**

X, volume / capacity	1.31	1.42	0.93	0.97		1.26	1.40
d, Delay for Lane Group [s/veh]	199.59	214.12	48.35	70.75		170.22	229.04
Lane Group LOS	F	F	D	E		F	F
Critical Lane Group	No	Yes	No	No		No	Yes
50th-Percentile Queue Length [veh/ln]	30.97	85.68	15.45	18.39		36.88	41.80
50th-Percentile Queue Length [ft/ln]	774.13	2141.89	386.28	459.66		922.10	1044.91
95th-Percentile Queue Length [veh/ln]	46.27	128.77	21.90	25.42		53.83	63.04
95th-Percentile Queue Length [ft/ln]	1156.80	3219.33	547.44	635.47		1345.64	1575.99

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	199.59	214.12	0.00	0.00	48.35	70.75	0.00	0.00	0.00	170.22	170.22	223.56
Movement LOS	F	F			D	E				F	F	F
d_A, Approach Delay [s/veh]	211.89			53.85			0.00			199.63		
Approach LOS	F			D			A			F		
d_I, Intersection Delay [s/veh]	164.39											
Intersection LOS	F											
Intersection V/C	1.314											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	48.84	48.84
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.331	2.867
Crosswalk LOS	F	F	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1218	644	0	644
d_b, Bicycle Delay [s]	8.80	26.44	57.49	26.44
I_b,int, Bicycle LOS Score for Intersection	4.608	2.775	4.132	4.371
Bicycle LOS	E	C	D	E

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 12: Cedar Ave/I-10 EB Ramps**

Control Type:	Signalized	Delay (sec / veh):	90.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.051

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			↵↑↑			↵↑↑					
Lane Configuration	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Turning Movement												
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	600.00	100.00	600.00	100.00	100.00	100.00	380.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1090.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	2436	524	489	1591	0	582	2	237	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	61	49	0	37	0	0	0	23	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	143	0	0	0	0	0	65	0	0	0
Total Hourly Volume [veh/h]	0	2497	430	489	1628	0	582	2	195	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	657	113	129	428	0	153	1	51	0	0	0
Total Analysis Volume [veh/h]	0	2628	453	515	1714	0	613	2	205	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	50	0	33	83	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	R	L	C	L	C	
C, Cycle Length [s]	110	110	110	110	110	110	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	46	46	29	79	23	23	
g / C, Green / Cycle	0.42	0.42	0.26	0.72	0.21	0.21	
(v / s)_i Volume / Saturation Flow Rate	0.51	0.28	0.30	0.47	0.24	0.24	
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1708	
c, Capacity [veh/h]	2162	675	452	2597	359	358	
d1, Uniform Delay [s]	32.02	25.91	40.48	8.32	43.47	43.47	
k, delay calibration	0.50	0.50	0.50	0.50	0.35	0.37	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	101.48	5.27	86.23	1.33	80.56	92.57	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.22	0.67	1.14	0.66	1.13	1.16	
d, Delay for Lane Group [s/veh]	133.49	31.17	126.71	9.65	124.03	136.04	
Lane Group LOS	F	C	F	A	F	F	
Critical Lane Group	Yes	No	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	38.75	10.37	22.87	9.81	17.69	18.82	
50th-Percentile Queue Length [ft/ln]	968.84	259.16	571.83	245.36	442.30	470.56	
95th-Percentile Queue Length [veh/ln]	55.84	15.65	33.13	14.95	26.22	28.01	
95th-Percentile Queue Length [ft/ln]	1395.96	391.17	828.32	373.81	655.41	700.14	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	133.49	31.17	126.71	9.65	0.00	128.06	136.04	136.04	0.00	0.00	0.00
Movement LOS		F	C	F	A		F	F	F			
d_A, Approach Delay [s/veh]		118.45		36.70			130.10			0.00		
Approach LOS		F		D			F			A		
d_I, Intersection Delay [s/veh]	90.28											
Intersection LOS	F											
Intersection V/C	1.051											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]		0.0		0.0		9.0		9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]		0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]		0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]		0.00		0.00		46.36		46.36
I_p,int, Pedestrian LOS Score for Intersection		0.000		0.000		2.331		2.269
Crosswalk LOS		F		F		B		B
s_b, Saturation Flow Rate of the bicycle lane		2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]		836		1437		418		0
d_b, Bicycle Delay [s]		18.61		4.36		34.40		54.99
I_b,int, Bicycle LOS Score for Intersection		3.333		3.399		3.020		4.132
Bicycle LOS		C		C		C		D

**Sequence**

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 13: Cedar Ave/Orange St**

Control Type:	Signalized	Delay (sec / veh):	225.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.419

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	160.00	100.00	100.00	140.00	100.00	170.00	400.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	1	2673	2	39	1568	234	795	11	83	1	2	121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	110	0	0	60	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	1	0	0	59	0	0	21	0	0	30
Total Hourly Volume [veh/h]	1	2783	1	39	1628	175	795	11	62	1	2	91
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	732	0	10	428	46	209	3	16	0	1	24
Total Analysis Volume [veh/h]	1	2929	1	41	1714	184	837	12	65	1	2	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	170
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	41	84	0	9	52	0	0	77	0	0	77	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	170	170	170	170	170	170	170	170	170
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	89	81	81	89	85	85	73	73	73
g / C, Green / Cycle	0.52	0.48	0.48	0.52	0.50	0.50	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.00	0.77	0.77	0.20	0.47	0.11	0.64	0.05	0.06
s, saturation flow rate [veh/h]	325	1900	1900	201	3618	1615	1318	1654	1621
c, Capacity [veh/h]	104	903	903	127	1806	806	541	709	717
d1, Uniform Delay [s]	36.25	44.59	44.59	39.88	40.51	24.06	51.82	29.08	29.53
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.04	284.94	285.02	6.65	12.14	0.66	255.88	0.07	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.01	1.62	1.62	0.32	0.95	0.23	1.55	0.11	0.14
d, Delay for Lane Group [s/veh]	36.29	329.53	329.61	46.52	52.65	24.72	307.70	29.15	29.62
Lane Group LOS	D	F	F	D	D	C	F	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.02	109.21	109.22	1.06	36.88	4.46	61.76	1.96	2.56
50th-Percentile Queue Length [ft/ln]	0.52	2730.18	2730.40	26.43	922.09	111.55	1543.94	48.93	63.89
95th-Percentile Queue Length [veh/ln]	0.04	167.42	167.44	1.90	46.84	7.93	95.67	3.52	4.60
95th-Percentile Queue Length [ft/ln]	0.93	4185.56	4186.04	47.58	1171.09	198.16	2391.72	88.08	115.00



**Movement, Approach, & Intersection Results**

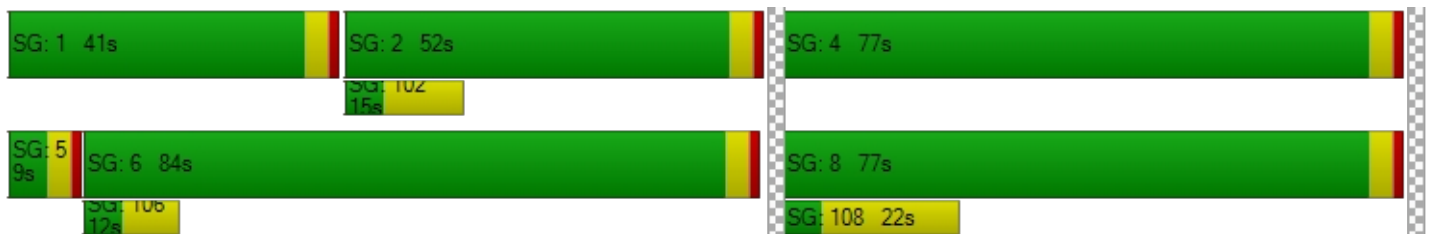
d_M, Delay for Movement [s/veh]	36.29	329.57	329.61	46.52	52.65	24.72	307.70	29.15	29.15	29.62	29.62	29.62
Movement LOS	D	F	F	D	D	C	F	C	C	C	C	C
d_A, Approach Delay [s/veh]	329.47			49.87			284.23			29.62		
Approach LOS	F			D			F			C		
d_I, Intersection Delay [s/veh]	225.24											
Intersection LOS	F											
Intersection V/C	1.419											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	76.24	0.00	76.24	76.24
I_p,int, Pedestrian LOS Score for Intersection	3.257	0.000	2.386	1.907
Crosswalk LOS	C	F	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	941	565	859	859
d_b, Bicycle Delay [s]	23.82	43.78	27.67	27.67
I_b,int, Bicycle LOS Score for Intersection	3.979	3.208	3.102	1.772
Bicycle LOS	D	C	C	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 14: Cedar Ave/Slover Ave**

Control Type:	Signalized	Delay (sec / veh):	210.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.377

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	225.00	100.00	100.00	115.00	100.00	100.00	250.00	100.00	80.00	190.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	82	1800	66	575	966	151	396	571	124	27	204	478
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	110	0	0	60	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	38	0	0	31	0	0	120
Total Hourly Volume [veh/h]	82	1910	49	575	1026	113	396	571	93	27	204	358
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	503	13	151	270	30	104	150	24	7	54	94
Total Analysis Volume [veh/h]	86	2011	52	605	1080	119	417	601	98	28	215	377
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	175
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	64	0	46	95	0	33	56	0	9	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	175	175	175	175	175	175	175	175	175	175	175	175
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	60	60	42	91	91	29	53	53	4	28	28
g / C, Green / Cycle	0.06	0.34	0.34	0.24	0.52	0.52	0.17	0.30	0.30	0.02	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.05	0.54	0.55	0.35	0.32	0.33	0.24	0.18	0.06	0.02	0.11	0.23
s, saturation flow rate [veh/h]	1714	1900	1883	1714	1900	1835	1714	3427	1530	1714	1900	1615
c, Capacity [veh/h]	103	652	646	410	993	959	284	1042	465	37	304	258
d1, Uniform Delay [s]	81.29	57.42	57.42	66.50	29.20	29.55	72.92	51.34	45.24	85.04	69.56	73.44
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.11	0.20	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.57	269.07	275.36	226.32	2.76	3.04	228.19	0.51	0.22	25.43	5.51	226.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.83	1.58	1.60	1.47	0.61	0.62	1.47	0.58	0.21	0.75	0.71	1.46
d, Delay for Lane Group [s/veh]	96.86	326.48	332.78	292.81	31.96	32.59	301.11	51.85	45.46	110.47	75.07	300.13
Lane Group LOS	F	F	F	F	C	C	F	D	D	F	E	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.32	77.57	78.02	44.17	18.68	18.77	30.86	11.34	3.27	1.54	9.66	27.94
50th-Percentile Queue Length [ft/ln]	108.00	1939.36	1950.50	1104.29	466.88	469.19	771.51	283.53	81.66	38.38	241.53	698.52
95th-Percentile Queue Length [veh/ln]	7.73	117.34	118.29	66.49	25.76	25.87	46.96	16.86	5.88	2.76	14.76	42.80
95th-Percentile Queue Length [ft/ln]	193.22	2933.41	2957.26	1662.13	644.06	646.81	1174.02	421.60	146.99	69.08	368.97	1070.08

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	96.86	329.55	332.78	292.81	32.24	32.59	301.11	51.85	45.46	110.47	75.07	300.13
Movement LOS	F	F	F	F	C	C	F	D	D	F	E	F
d_A, Approach Delay [s/veh]	320.32			119.65			144.43			213.52		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	210.54											
Intersection LOS	F											
Intersection V/C	1.377											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	78.69	78.69	78.69	78.69
I_p,int, Pedestrian LOS Score for Intersection	3.020	3.314	2.894	2.983
Crosswalk LOS	C	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	1040	595	320
d_b, Bicycle Delay [s]	37.75	20.13	43.19	61.70
I_b,int, Bicycle LOS Score for Intersection	3.347	3.079	2.506	2.170
Bicycle LOS	C	C	B	B

**Sequence**

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 15: Cedar Ave/Santa Ana Ave**

Control Type:	Signalized	Delay (sec / veh):	228.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.421

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	290.00	100.00	100.00	240.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	139	1248	32	76	779	78	598	375	446	26	131	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	80	0	0	43	17	30	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	8	0	0	24	0	0	112	0	0	17
Total Hourly Volume [veh/h]	139	1328	24	76	822	71	628	375	334	26	131	51
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	349	6	20	216	19	165	99	88	7	34	13
Total Analysis Volume [veh/h]	146	1398	25	80	865	75	661	395	352	27	138	54
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	42	0	10	38	0	0	98	0	0	98	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	150	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	38	38	6	34	34	94	94
g / C, Green / Cycle	0.07	0.25	0.25	0.04	0.23	0.23	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.09	0.38	0.38	0.05	0.25	0.25	1.00	0.13
s, saturation flow rate [veh/h]	1714	1900	1888	1714	1900	1847	1411	1691
c, Capacity [veh/h]	114	483	480	69	433	421	918	1085
d1, Uniform Delay [s]	70.00	55.92	55.92	72.00	57.92	57.92	30.96	11.95
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	138.80	224.68	226.23	103.47	73.65	74.25	245.97	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.28	1.47	1.48	1.17	1.10	1.10	1.53	0.20
d, Delay for Lane Group [s/veh]	208.79	280.59	282.15	175.47	131.57	132.17	276.93	12.04
Lane Group LOS	F	F	F	F	F	F	F	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.82	48.45	48.36	4.62	25.28	24.65	96.19	3.07
50th-Percentile Queue Length [ft/ln]	220.44	1211.27	1208.99	115.61	631.95	616.16	2404.83	76.86
95th-Percentile Queue Length [veh/ln]	14.72	72.63	72.56	8.32	35.45	34.66	148.84	5.53
95th-Percentile Queue Length [ft/ln]	368.11	1815.83	1814.06	208.10	886.17	866.62	3721.00	138.35

**Movement, Approach, & Intersection Results**

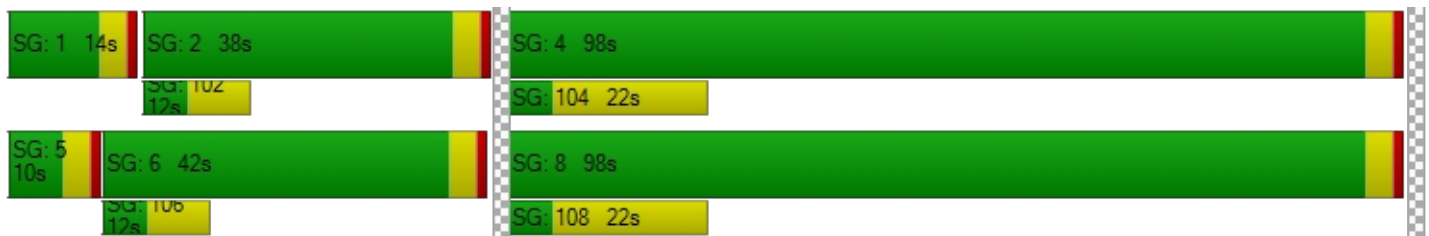
d_M, Delay for Movement [s/veh]	208.79	281.36	282.15	175.47	131.84	132.17	276.93	276.93	276.93	12.04	12.04	12.04
Movement LOS	F	F	F	F	F	F	F	F	F	B	B	B
d_A, Approach Delay [s/veh]	274.62			135.29			276.93			12.04		
Approach LOS	F			F			F			B		
d_I, Intersection Delay [s/veh]	228.04											
Intersection LOS	F											
Intersection V/C	1.421											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27	66.27
I_p,int, Pedestrian LOS Score for Intersection	2.947	3.919	2.827	2.248
Crosswalk LOS	C	D	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	507	453	1253	1253
d_b, Bicycle Delay [s]	41.81	44.85	10.45	10.45
I_b,int, Bicycle LOS Score for Intersection	2.861	2.421	4.068	1.949
Bicycle LOS	C	B	D	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 16: Cedar Ave/Jurupa Ave**

Control Type:	Signalized	Delay (sec / veh):	273.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.594

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵			↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	1
Entry Pocket Length [ft]	190.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	180.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	282	1356	249	135	1241	47	39	329	201	125	81	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	34	0	0	0	0	43	80	10	64	0	6	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	62	0	0	23	0	0	66	0	0	19
Total Hourly Volume [veh/h]	316	1356	187	135	1241	67	119	339	199	125	87	57
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	357	49	36	327	18	31	89	52	33	23	15
Total Analysis Volume [veh/h]	333	1427	197	142	1306	71	125	357	209	132	92	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	21	0	9	19	0	0	30	0	0	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	R	C	R
C, Cycle Length [s]	60	60	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	17	17	5	15	15	26	26	26	26
g / C, Green / Cycle	0.12	0.28	0.28	0.08	0.25	0.25	0.43	0.43	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.19	0.43	0.45	0.08	0.36	0.37	1.38	0.13	2.03	0.04
s, saturation flow rate [veh/h]	1714	1900	1822	1714	1900	1866	349	1615	110	1615
c, Capacity [veh/h]	204	540	517	148	477	468	226	696	142	696
d1, Uniform Delay [s]	26.57	21.60	21.60	27.47	22.59	22.59	14.90	11.22	22.36	10.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.50	0.11	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	289.33	236.80	265.51	26.26	215.00	218.80	526.27	0.24	289.15	0.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.63	1.51	1.57	0.96	1.45	1.46	2.14	0.30	1.57	0.09
d, Delay for Lane Group [s/veh]	315.91	258.40	287.10	53.73	237.59	241.39	541.17	11.46	311.51	10.20
Lane Group LOS	F	F	F	D	F	F	F	B	F	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	19.14	42.34	44.72	3.00	34.63	34.50	34.66	1.63	13.40	0.42
50th-Percentile Queue Length [ft/ln]	478.58	1058.41	1118.10	74.96	865.76	862.54	866.54	40.80	335.02	10.55
95th-Percentile Queue Length [veh/ln]	30.90	65.01	69.25	5.40	53.10	53.02	60.25	2.94	24.09	0.76
95th-Percentile Queue Length [ft/ln]	772.54	1625.16	1731.14	134.94	1327.57	1325.53	1506.14	73.44	602.24	18.98

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	315.91	270.77	287.10	53.73	239.37	241.39	541.17	541.17	11.46	311.51	311.51	10.20
Movement LOS	F	F	F	D	F	F	F	F	B	F	F	B
d_A, Approach Delay [s/veh]	280.09			222.11			380.95			247.85		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	273.91											
Intersection LOS	F											
Intersection V/C	2.594											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.76	21.76	21.76	21.76
I_p,int, Pedestrian LOS Score for Intersection	3.284	3.110	2.430	2.293
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	565	499	864	864
d_b, Bicycle Delay [s]	15.48	16.95	9.70	9.70
I_b,int, Bicycle LOS Score for Intersection	3.225	2.832	2.809	2.060
Bicycle LOS	C	C	C	B

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 17: Cedar Ave/11th St**

Control Type:	Signalized	Delay (sec / veh):	67.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.002

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	200.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	549	1796	20	73	1316	239	168	74	96	18	45	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	34	0	0	64	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	5	0	0	60	0	0	24	0	0	4
Total Hourly Volume [veh/h]	549	1830	15	73	1380	179	168	74	72	18	45	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	482	4	19	363	47	44	19	19	5	12	3
Total Analysis Volume [veh/h]	578	1926	16	77	1453	188	177	78	76	19	47	12
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	40	79	0	10	49	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	75	75	6	45	45	22	22
g / C, Green / Cycle	0.31	0.65	0.65	0.05	0.39	0.39	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.34	0.51	0.51	0.04	0.44	0.45	0.22	0.05
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1826	1510	1658
c, Capacity [veh/h]	536	1237	1233	91	743	714	338	357
d1, Uniform Delay [s]	39.49	14.32	14.36	53.97	35.00	35.00	47.88	39.21
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.33	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	61.37	5.05	5.13	18.72	68.79	79.24	35.46	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.08	0.79	0.79	0.85	1.11	1.14	0.98	0.22
d, Delay for Lane Group [s/veh]	100.86	19.37	19.49	72.68	103.79	114.24	83.34	39.51
Lane Group LOS	F	B	B	E	F	F	F	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	24.02	18.11	18.18	2.68	34.40	35.12	12.94	1.90
50th-Percentile Queue Length [ft/ln]	600.60	452.68	454.47	66.98	859.97	878.10	323.54	47.45
95th-Percentile Queue Length [veh/ln]	33.65	25.09	25.17	4.82	47.48	49.09	18.84	3.42
95th-Percentile Queue Length [ft/ln]	841.26	627.15	629.28	120.56	1187.10	1227.26	471.04	85.42

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	100.86	19.43	19.49	72.68	108.29	114.24	83.34	83.34	83.34	39.51	39.51	39.51
Movement LOS	F	B	B	E	F	F	F	F	F	D	D	D
d_A, Approach Delay [s/veh]	38.11			107.34			83.34			39.51		
Approach LOS	D			F			F			D		
d_I, Intersection Delay [s/veh]	66.95											
Intersection LOS	E											
Intersection V/C	1.002											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	48.84			48.84			48.84			48.84		
I_p,int, Pedestrian LOS Score for Intersection	3.146			3.410			2.361			1.860		
Crosswalk LOS	C			C			B			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1305			783			383			383		
d_b, Bicycle Delay [s]	6.95			21.29			37.59			37.59		
I_b,int, Bicycle LOS Score for Intersection	3.643			3.026			2.145			1.695		
Bicycle LOS	D			C			B			A		

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 18: Cedar Ave/7th St**

Control Type:	Signalized	Delay (sec / veh):	112.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.155

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	295.00	100.00	100.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	630	1853	14	52	1323	78	109	22	566	29	22	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	54	10	6	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	22	0	0	142	0	0	4
Total Hourly Volume [veh/h]	630	1882	10	52	1377	66	115	22	424	29	22	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	495	3	14	362	17	30	6	112	8	6	3
Total Analysis Volume [veh/h]	663	1981	11	55	1449	69	121	23	446	31	23	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	40	71	0	9	40	0	0	35	0	0	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	67	67	5	36	36	31	31
g / C, Green / Cycle	0.31	0.59	0.59	0.04	0.31	0.31	0.27	0.27
(v / s)_i Volume / Saturation Flow Rate	0.39	0.52	0.53	0.03	0.40	0.40	0.36	0.08
s, saturation flow rate [veh/h]	1714	1900	1896	1714	1900	1870	1618	869
c, Capacity [veh/h]	536	1111	1109	71	595	585	474	280
d1, Uniform Delay [s]	39.49	20.84	20.88	54.58	39.48	39.48	42.91	31.96
k, delay calibration	0.50	0.50	0.50	0.11	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	121.52	11.31	11.47	16.42	139.64	143.11	126.78	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.24	0.90	0.90	0.78	1.28	1.29	1.24	0.24
d, Delay for Lane Group [s/veh]	161.00	32.15	32.36	71.00	179.12	182.59	169.69	32.40
Lane Group LOS	F	C	C	E	F	F	F	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	32.99	25.19	25.29	1.90	39.57	39.50	30.40	1.49
50th-Percentile Queue Length [ft/ln]	824.67	629.86	632.14	47.49	989.17	987.59	760.03	37.26
95th-Percentile Queue Length [veh/ln]	48.12	33.43	33.53	3.42	57.75	57.82	44.60	2.68
95th-Percentile Queue Length [ft/ln]	1202.99	835.65	838.31	85.48	1443.70	1445.59	1114.95	67.07

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	161.00	32.25	32.36	71.00	180.76	182.59	169.69	169.69	169.69	32.40	32.40	32.40
Movement LOS	F	C	C	E	F	F	F	F	F	C	C	C
d_A, Approach Delay [s/veh]	64.40			177.01			169.69			32.40		
Approach LOS	E			F			F			C		
d_I, Intersection Delay [s/veh]	112.92											
Intersection LOS	F											
Intersection V/C	1.155											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.84	48.84	48.84	48.84
I_p,int, Pedestrian LOS Score for Intersection	3.285	3.241	2.666	1.814
Crosswalk LOS	C	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1165	626	539	539
d_b, Bicycle Delay [s]	10.01	27.12	30.67	30.67
I_b,int, Bicycle LOS Score for Intersection	3.753	2.875	2.767	1.678
Bicycle LOS	D	C	C	A

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 19: Cedar Ave/El Rivino Rd**

Control Type:	Signalized	Delay (sec / veh):	279.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.749

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	195.00	100.00	100.00	345.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	215.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	9	1556	399	408	941	9	13	9	5	880	17	1001
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	29	0	0	54	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	100	0	0	2	0	0	1	0	0	250
Total Hourly Volume [veh/h]	9	1585	299	408	995	7	13	9	4	880	17	751
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	417	79	107	262	2	3	2	1	232	4	198
Total Analysis Volume [veh/h]	9	1668	315	429	1047	7	14	9	4	926	18	791
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	36	37	0	20	21	0	0	53	0	0	53	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C	L	C	C	C	C	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	1	33	33	16	48	48	49	49	49
g / C, Green / Cycle	0.01	0.30	0.30	0.15	0.43	0.43	0.44	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.01	0.52	0.55	0.25	0.28	0.28	0.38	0.95	0.49
s, saturation flow rate [veh/h]	1714	1900	1799	1714	1900	1896	71	996	1615
c, Capacity [veh/h]	20	571	541	250	826	824	81	507	717
d1, Uniform Delay [s]	53.96	38.45	38.45	46.96	24.33	24.33	27.28	33.72	30.56
k, delay calibration	0.11	0.50	0.50	0.39	0.50	0.50	0.36	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.13	338.42	382.12	334.31	3.76	3.78	7.75	394.76	65.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.44	1.74	1.83	1.71	0.64	0.64	0.33	1.86	1.10
d, Delay for Lane Group [s/veh]	68.10	376.87	420.58	381.26	28.09	28.11	35.03	428.48	95.76
Lane Group LOS	E	F	F	F	C	C	D	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.33	68.80	71.71	30.04	11.37	11.36	0.56	69.68	31.17
50th-Percentile Queue Length [ft/ln]	8.19	1719.91	1792.76	751.11	284.25	283.90	14.01	1741.88	779.17
95th-Percentile Queue Length [veh/ln]	0.59	106.48	112.02	47.21	16.90	16.88	1.01	112.95	43.31
95th-Percentile Queue Length [ft/ln]	14.74	2661.95	2800.49	1180.18	422.50	422.07	25.22	2823.81	1082.73

**Movement, Approach, & Intersection Results**

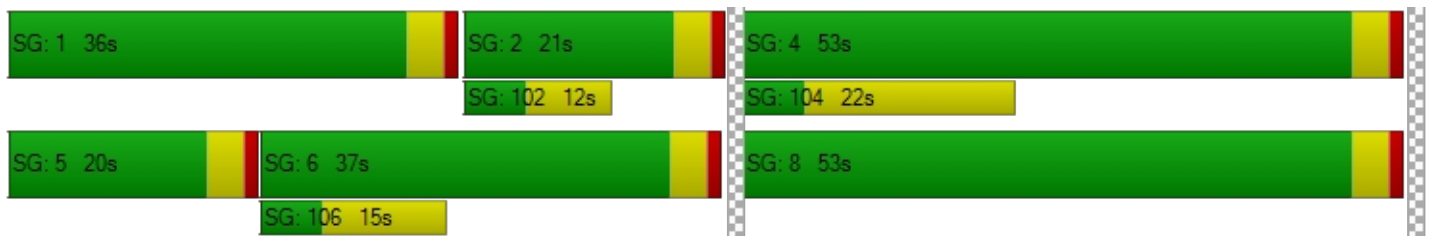
d_M, Delay for Movement [s/veh]	68.10	394.60	420.58	381.26	28.10	28.11	35.03	35.03	35.03	428.48	428.48	95.76
Movement LOS	E	F	F	F	C	C	D	D	D	F	F	F
d_A, Approach Delay [s/veh]	397.23			130.26			35.03			276.79		
Approach LOS	F			F			D			F		
d_I, Intersection Delay [s/veh]	279.86											
Intersection LOS	F											
Intersection V/C	1.749											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	46.36	46.36	46.36
I_p,int, Pedestrian LOS Score for Intersection	0.000	3.154	1.759	3.229
Crosswalk LOS	F	C	A	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	309	891	891
d_b, Bicycle Delay [s]	26.94	39.31	16.91	16.91
I_b,int, Bicycle LOS Score for Intersection	3.286	2.785	1.606	4.835
Bicycle LOS	C	C	A	E

**Sequence**

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 20: Rubidoux Blvd/Market St**

Control Type:	Signalized	Delay (sec / veh):	129.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.155

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	245.00	100.00	330.00	270.00	100.00	370.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		



**Volumes**

Name												
Base Volume Input [veh/h]	68	1187	807	651	1113	58	40	50	23	401	158	806
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	0	39	15	0	0	0	0	0	0	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	202	0	0	15	0	0	6	0	0	207
Total Hourly Volume [veh/h]	68	1195	605	690	1128	43	40	50	17	401	158	620
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	314	159	182	297	11	11	13	4	106	42	163
Total Analysis Volume [veh/h]	72	1258	637	726	1187	45	42	53	18	422	166	653
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	165
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0	
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0	
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	
Split [s]	12	56	0	53	97	0	0	10	0	0	46	0	
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rest In Walk		No			No			No			No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	
Minimum Recall	No	No		No	No			No			No		
Maximum Recall	No	No		No	No			No			No		
Pedestrian Recall	No	No		No	No			No			No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	L	C	C
C, Cycle Length [s]	165	165	165	165	165	165	165	165	165
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	52	52	49	93	93	6	6	42
g / C, Green / Cycle	0.05	0.31	0.31	0.30	0.56	0.56	0.04	0.04	0.25
(v / s)_i Volume / Saturation Flow Rate	0.04	0.35	0.39	0.40	0.33	0.03	0.02	0.04	0.32
s, saturation flow rate [veh/h]	1810	3618	1615	1810	3618	1615	1810	1819	1834
c, Capacity [veh/h]	88	1138	508	537	2036	909	68	68	467
d1, Uniform Delay [s]	77.77	56.53	56.53	58.03	23.48	16.23	78.27	79.41	61.50
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.50	0.11	0.11	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.69	60.32	129.47	170.72	1.23	0.10	9.00	63.38	133.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.82	1.11	1.25	1.35	0.58	0.05	0.62	1.05	1.26
d, Delay for Lane Group [s/veh]	94.46	116.86	186.01	228.75	24.71	16.33	87.27	142.80	194.84
Lane Group LOS	F	F	F	F	C	B	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.46	33.22	39.42	47.84	15.49	0.82	1.94	4.10	36.87
50th-Percentile Queue Length [ft/ln]	86.52	830.54	985.61	1195.97	387.17	20.48	48.57	102.58	921.75
95th-Percentile Queue Length [veh/ln]	6.23	45.58	56.95	70.14	21.94	1.47	3.50	7.39	53.26
95th-Percentile Queue Length [ft/ln]	155.74	1139.50	1423.87	1753.49	548.52	36.87	87.43	184.64	1331.41

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	94.46	116.86	186.01	228.75	24.71	16.33	87.27	142.80	142.80	194.84	194.84	0.00
Movement LOS	F	F	F	F	C	B	F	F	F	F	F	
d_A, Approach Delay [s/veh]	138.43			100.17			122.16			194.84		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	129.01											
Intersection LOS	F											
Intersection V/C	1.155											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	630			1127			73			509		
d_b, Bicycle Delay [s]	38.69			15.71			76.61			45.84		
I_b,int, Bicycle LOS Score for Intersection	3.349			3.187			1.756			2.530		
Bicycle LOS	C			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 21: Agua Mansa Rd/Market St**

Control Type:	Signalized	Delay (sec / veh):	87.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.189

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	2	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	200.00	85.00	100.00	65.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	315.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

**Volumes**

Name												
Base Volume Input [veh/h]	13	16	7	460	15	828	565	641	9	8	721	401
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	39	0	0	21	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	207	0	0	2	0	0	100
Total Hourly Volume [veh/h]	13	16	5	460	15	621	565	680	7	8	742	301
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	4	1	121	4	163	149	179	2	2	195	79
Total Analysis Volume [veh/h]	14	17	5	484	16	654	595	716	7	8	781	317
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	0	0	5	0	5	5	0	5	5	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	21	31	0	9	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	C	R	L	C	R	L	C	R
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	26	26	17	31	31	1	15	15
g / C, Green / Cycle	0.37	0.37	0.37	0.24	0.45	0.45	0.01	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.16	0.64	0.40	0.33	0.20	0.00	0.00	0.22	0.20
s, saturation flow rate [veh/h]	224	776	1615	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	155	391	603	440	1609	718	19	769	343
d1, Uniform Delay [s]	17.81	25.35	21.95	26.51	13.46	10.84	34.42	27.57	27.01
k, delay calibration	0.50	0.50	0.50	0.28	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.49	144.19	61.93	167.44	0.19	0.01	13.36	19.09	10.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.23	1.28	1.09	1.35	0.44	0.01	0.41	1.02	0.92
d, Delay for Lane Group [s/veh]	21.29	169.53	83.88	193.95	13.65	10.85	47.78	46.67	37.48
Lane Group LOS	C	F	F	F	B	B	D	F	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.49	22.12	19.33	27.32	3.57	0.06	0.20	8.10	5.89
50th-Percentile Queue Length [ft/ln]	12.31	553.10	483.21	683.02	89.19	1.41	5.09	202.56	147.37
95th-Percentile Queue Length [veh/ln]	0.89	34.46	28.02	41.76	6.42	0.10	0.37	12.87	9.88
95th-Percentile Queue Length [ft/ln]	22.15	861.47	700.42	1043.98	160.54	2.55	9.16	321.78	246.92



**Movement, Approach, & Intersection Results**

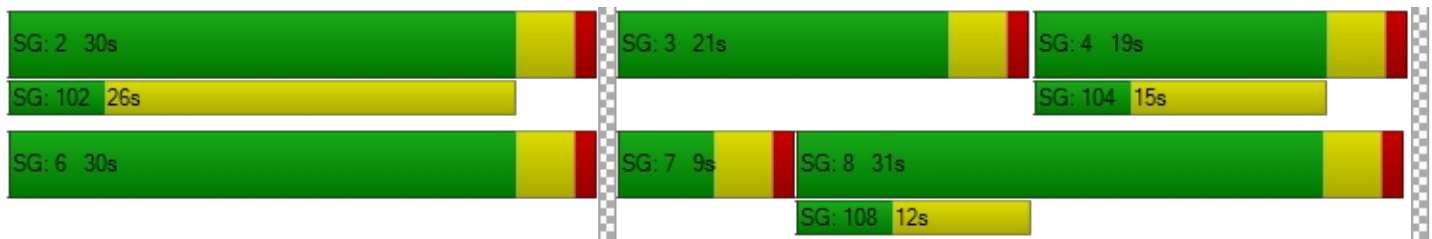
d_M, Delay for Movement [s/veh]	21.29	21.29	21.29	169.53	169.53	83.88	193.95	13.65	10.85	47.78	46.67	37.48
Movement LOS	C	C	C	F	F	F	F	B	B	D	F	D
d_A, Approach Delay [s/veh]	21.29			120.99			95.03			44.04		
Approach LOS	C			F			F			D		
d_I, Intersection Delay [s/veh]	86.98											
Intersection LOS	F											
Intersection V/C	1.189											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.59	26.59	26.59	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.741	3.000	2.948	0.000
Crosswalk LOS	A	C	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	743	743	771	428
d_b, Bicycle Delay [s]	13.84	13.84	13.21	21.61
I_b,int, Bicycle LOS Score for Intersection	1.622	3.805	2.649	2.555
Bicycle LOS	A	D	B	B

**Sequence**

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 22: Market St/24th St**

Control Type:	Signalized	Delay (sec / veh):	155.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.154

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Entry Pocket Length [ft]	185.00	100.00	70.00	245.00	100.00	145.00	100.00	100.00	60.00	535.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	80	1117	100	10	1283	4	7	46	329	368	69	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	21	0	0	39	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	1	0	0	82	0	0	13
Total Hourly Volume [veh/h]	80	1138	75	10	1322	3	7	46	247	368	69	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	299	20	3	348	1	2	12	65	97	18	10
Total Analysis Volume [veh/h]	84	1198	79	11	1392	3	7	48	260	387	73	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	230
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	136	0	9	131	0	0	38	0	0	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	R	C	R	L	C
C, Cycle Length [s]	230	230	230	230	230	230	230	230	230	230
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	134	134	3	127	127	34	34	43	43
g / C, Green / Cycle	0.04	0.58	0.58	0.01	0.55	0.55	0.15	0.15	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.05	0.63	0.05	0.01	0.73	0.00	0.03	0.16	0.21	0.06
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	1810	1787
c, Capacity [veh/h]	79	1109	943	20	1048	890	281	240	338	334
d1, Uniform Delay [s]	109.97	47.85	20.94	113.14	51.59	23.19	85.83	97.88	93.49	81.20
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	65.87	51.33	0.17	21.67	154.61	0.01	0.34	81.89	94.12	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	1.07	1.08	0.08	0.55	1.33	0.00	0.20	1.08	1.14	0.34
d, Delay for Lane Group [s/veh]	175.85	99.18	21.11	134.82	206.20	23.19	86.17	179.78	187.61	81.80
Lane Group LOS	F	F	C	F	F	C	F	F	F	F
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	6.24	78.94	2.01	0.79	105.12	0.08	2.95	19.99	29.24	6.03
50th-Percentile Queue Length [ft/ln]	155.89	1973.39	50.31	19.68	2628.07	1.98	73.63	499.84	731.07	150.74
95th-Percentile Queue Length [veh/ln]	10.52	100.11	3.62	1.42	150.07	0.14	5.30	28.43	40.96	10.06
95th-Percentile Queue Length [ft/ln]	262.93	2502.64	90.56	35.43	3751.64	3.56	132.53	710.64	1024.04	251.42

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	175.85	99.18	21.11	134.82	206.20	23.19	86.17	86.17	179.78	187.61	81.80	81.80
Movement LOS	F	F	C	F	F	C	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	99.38			205.25			163.43			163.54		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	155.53											
Intersection LOS	F											
Intersection V/C	1.154											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	106.16	106.16	106.16	106.16
I_p,int, Pedestrian LOS Score for Intersection	3.066	2.866	2.283	2.223
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1148	1104	296	374
d_b, Bicycle Delay [s]	20.87	23.06	83.50	76.01
I_b,int, Bicycle LOS Score for Intersection	3.847	3.881	2.215	2.408
Bicycle LOS	D	D	B	B

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 23: Market St/Rivera St**

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	165.00	100.00	100.00	155.00	100.00	365.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	22	1046	228	97	1729	0	0	12	73	206	5	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	21	0	0	39	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	57	0	0	0	0	0	18	0	0	11
Total Hourly Volume [veh/h]	22	1067	171	97	1768	0	0	12	55	206	5	34
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	281	45	26	465	0	0	3	14	54	1	9
Total Analysis Volume [veh/h]	23	1123	180	102	1861	0	0	13	58	217	5	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing in	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			



**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	85
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	6	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups			6									
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	5	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	30	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	23	23	10	24	0	0	26	0	0	26	0
Vehicle Extension [s]	3.0	3.0	3.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	14	14	0	10	0	0	10	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No			No			No	
Maximum Recall	No	No	No	No	No			No			No	
Pedestrian Recall	No	No	No	No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	R	L	C	C	C	R	L	C	R
C, Cycle Length [s]	85	85	85	85	85	85	85	85	85	85	85
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	51	51	6	55	55	4	4	8	8	8
g / C, Green / Cycle	0.03	0.60	0.60	0.07	0.65	0.65	0.05	0.05	0.09	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.01	0.31	0.11	0.06	0.49	0.49	0.01	0.04	0.06	0.06	0.02
s, saturation flow rate [veh/h]	1810	3618	1615	1810	1900	1900	1900	1615	1810	1813	1615
c, Capacity [veh/h]	47	2170	969	129	1226	1226	97	82	163	163	145
d1, Uniform Delay [s]	40.92	9.89	7.68	38.92	10.51	10.51	38.64	39.80	37.58	37.58	36.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.51	0.89	0.42	10.11	4.45	4.45	0.62	10.51	4.93	4.91	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.49	0.52	0.19	0.79	0.76	0.76	0.13	0.71	0.68	0.68	0.25
d, Delay for Lane Group [s/veh]	48.43	10.78	8.10	49.02	14.96	14.96	39.26	50.31	42.51	42.49	36.96
Lane Group LOS	D	B	A	D	B	B	D	D	D	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.57	5.59	1.44	2.43	11.47	11.47	0.27	1.42	2.43	2.43	0.72
50th-Percentile Queue Length [ft/ln]	14.21	139.78	35.96	60.63	286.75	286.75	6.82	35.43	60.64	60.72	18.05
95th-Percentile Queue Length [veh/ln]	1.02	9.47	2.59	4.37	17.02	17.02	0.49	2.55	4.37	4.37	1.30
95th-Percentile Queue Length [ft/ln]	25.57	236.72	64.73	109.13	425.60	425.60	12.28	63.78	109.14	109.30	32.48

**Movement, Approach, & Intersection Results**

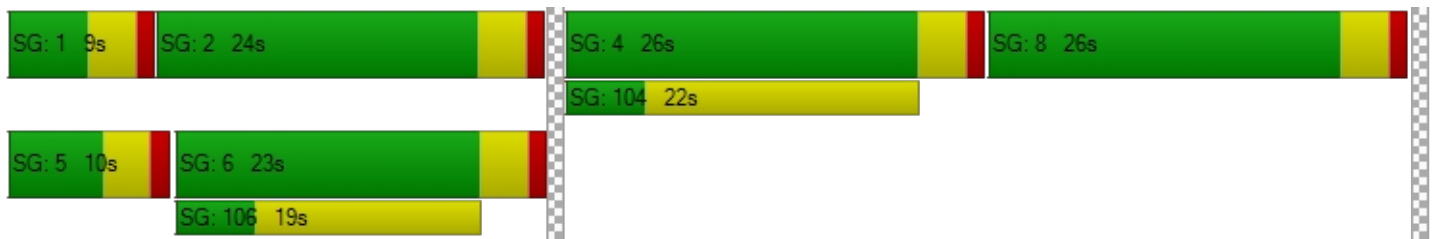
d_M, Delay for Movement [s/veh]	48.43	10.78	8.10	49.02	14.96	14.96	39.26	39.26	50.31	42.50	42.49	36.96
Movement LOS	D	B	A	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	11.07			16.73			48.29			41.73		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	17.06											
Intersection LOS	B											
Intersection V/C	0.600											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			9.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			34.03			0.00			34.03		
I_p,int, Pedestrian LOS Score for Intersection	0.000			2.910			0.000			2.297		
Crosswalk LOS	F			C			F			B		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	447			470			517			517		
d_b, Bicycle Delay [s]	25.67			24.90			23.39			23.39		
I_b,int, Bicycle LOS Score for Intersection	2.701			3.179			1.706			2.003		
Bicycle LOS	B			C			A			B		

**Sequence**

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report**  
**Intersection 24: Market St/SR-60 WB Ramp**

Control Type:	Signalized	Delay (sec / veh):	14.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	←			→						←		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	185.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	325.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No						No		
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	213	659	0	0	1851	170	0	0	0	71	0	739
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	39	0	0	0	0	0	0	21
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	43	0	0	0	0	0	190
Total Hourly Volume [veh/h]	213	659	0	0	1890	127	0	0	0	71	0	570
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	173	0	0	497	33	0	0	0	19	0	150
Total Analysis Volume [veh/h]	224	694	0	0	1989	134	0	0	0	75	0	600
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0					0		
v_di, Inbound Pedestrian Volume crossing in		0			0					0		
v_co, Outbound Pedestrian Volume crossing		0			0					0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0					0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0					0		
Bicycle Volume [bicycles/h]		0			0					0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Unsigna	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	0	2	0	0	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	5	0	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Split [s]	15	24	0	0	9	0	0	0	0	56	0	0
Vehicle Extension [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	5	0	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	10	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No					No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No			No					No		
Maximum Recall	No	No			No					No		
Pedestrian Recall	No	No			No					No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	C		L
C, Cycle Length [s]	80	80	80		80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00
g_i, Effective Green Time [s]	11	68	53		4
g / C, Green / Cycle	0.14	0.84	0.66		0.06
(v / s)_i Volume / Saturation Flow Rate	0.12	0.19	0.55		0.04
s, saturation flow rate [veh/h]	1810	3618	3618		1810
c, Capacity [veh/h]	250	3053	2372		102
d1, Uniform Delay [s]	33.94	1.21	10.55		37.20
k, delay calibration	0.11	0.50	0.50		0.11
l, Upstream Filtering Factor	1.00	1.00	1.00		1.00
d2, Incremental Delay [s]	10.80	0.17	3.75		9.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00
PF, progression factor	1.00	1.00	1.00		1.00

**Lane Group Results**

X, volume / capacity	0.90	0.23	0.84		0.74
d, Delay for Lane Group [s/veh]	44.74	1.38	14.30		47.04
Lane Group LOS	D	A	B		D
Critical Lane Group	Yes	No	Yes		Yes
50th-Percentile Queue Length [veh/ln]	4.91	0.32	11.73		1.70
50th-Percentile Queue Length [ft/ln]	122.85	8.02	293.37		42.39
95th-Percentile Queue Length [veh/ln]	8.55	0.58	17.35		3.05
95th-Percentile Queue Length [ft/ln]	213.73	14.43	433.82		76.30

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	44.74	1.38	0.00	0.00	14.30	0.00	0.00	0.00	0.00	0.00	47.04	0.00	0.00
Movement LOS	D	A			B						D		
d_A, Approach Delay [s/veh]	11.96			14.30			0.00			47.04			
Approach LOS	B			B			A			D			
d_I, Intersection Delay [s/veh]	14.41												
Intersection LOS	B												
Intersection V/C	0.715												

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			31.53		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.960		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	500			125			0			1299		
d_b, Bicycle Delay [s]	22.52			35.18			40.02			4.91		
I_b,int, Bicycle LOS Score for Intersection	2.317			3.201			4.132			1.560		
Bicycle LOS	B			C			D			A		

**Sequence**

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





**Intersection Level Of Service Report**  
**Intersection 25: Market St/SR-60 EB Ramp**

Control Type:	Signalized	Delay (sec / veh):	52.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.926

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↑↑↑			←↑↑			↑↑↑					
Lane Configuration	↑↑↑			←↑↑			↑↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	1	0	0	1	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	60.00	155.00	100.00	100.00	180.00	100.00	410.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No					
Crosswalk	No			No			No			Yes		

**Volumes**

Name												
Base Volume Input [veh/h]	0	976	163	512	1954	0	120	0	1165	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	39	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	41	0	0	0	0	0	291	0	0	0
Total Hourly Volume [veh/h]	0	976	122	551	1954	0	120	0	874	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	257	32	145	514	0	32	0	230	0	0	0
Total Analysis Volume [veh/h]	0	1027	128	580	2057	0	126	0	920	0	0	0
Presence of On-Street Parking	No		No	No		No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	29	0	30	59	0	31	0	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No		No					
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	C	L	C	L	R	
C, Cycle Length [s]	90	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	25	26	55	27	27	
g / C, Green / Cycle	0.28	0.29	0.61	0.30	0.30	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.32	0.57	0.07	0.32	
s, saturation flow rate [veh/h]	3618	1810	3618	1810	2859	
c, Capacity [veh/h]	1005	523	2211	543	857	
d1, Uniform Delay [s]	32.53	32.03	15.78	23.73	31.54	
k, delay calibration	0.50	0.42	0.50	0.11	0.11	
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	33.92	70.00	8.53	0.22	38.53	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	

**Lane Group Results**

X, volume / capacity	1.02	1.11	0.93	0.23	1.07	
d, Delay for Lane Group [s/veh]	66.45	102.03	24.31	23.94	70.07	
Lane Group LOS	F	F	C	C	F	
Critical Lane Group	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	15.30	21.12	18.93	2.01	13.55	
50th-Percentile Queue Length [ft/ln]	382.61	528.08	473.29	50.33	338.63	
95th-Percentile Queue Length [veh/ln]	22.01	30.52	26.07	3.62	20.42	
95th-Percentile Queue Length [ft/ln]	550.13	763.04	651.68	90.60	510.41	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	66.45	0.00	102.03	24.31	0.00	23.94	0.00	70.07	0.00	0.00	0.00
Movement LOS		F		F	C		C		F			
d_A, Approach Delay [s/veh]	66.45			41.41			64.51			0.00		
Approach LOS	E			D			E			A		
d_I, Intersection Delay [s/veh]	52.00											
Intersection LOS	D											
Intersection V/C	0.926											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			9.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			36.47		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			1.990		
Crosswalk LOS	F			F			F			A		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	555			1222			600			0		
d_b, Bicycle Delay [s]	23.49			6.82			22.07			45.02		
I_b,int, Bicycle LOS Score for Intersection	2.407			3.735			1.560			4.132		
Bicycle LOS	B			D			A			D		

**Sequence**

Ring 1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 26: Laurel Ave/Driveway 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	26	0	0	29	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	35	0	11	20	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	0	11	49	0	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	0	3	13	0	5
Total Analysis Volume [veh/h]	64	0	12	52	0	21
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.36	0.00	9.33	8.68
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.59	0.59	1.61	1.61
d_A, Approach Delay [s/veh]	0.00		1.38		8.68	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.82					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 27: Laurel Ave/Driveway 2**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	26	0	0	29	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	35	0	0	20	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	61	0	0	49	0	0	0	0	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	0	0	13	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	64	0	0	52	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.07	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.11	9.31	8.61	9.13	9.25	8.55	7.20	0.00	0.00	7.20	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.23	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.73	5.73	5.73	4.59	4.59	4.59	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.31			9.25			2.40			2.40		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.28											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 28: Laurel Ave/Driveway 3**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	26	0	0	29	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	30	14	3	17	0	0	0	0	8	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	56	14	3	46	0	0	0	0	8	0	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	15	4	1	12	0	0	0	0	2	0	1
Total Analysis Volume [veh/h]	0	59	15	3	48	0	0	0	0	8	0	5
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	100

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	7.29	0.00	0.00	7.34	0.00	0.00	9.23	9.71	8.51	9.25	9.72	8.65
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.15	0.15	0.15	0.00	0.00	0.00	1.09	1.09	1.09
d_A, Approach Delay [s/veh]	0.00			0.43			9.15			9.02		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.01											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 29: Locust Ave/Driveway 4**

Control Type:	Two-way stop	Delay (sec / veh):	70.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.167

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	1205	1974	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	45	25	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	1250	1999	0	0	10
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	329	526	0	0	3
Total Analysis Volume [veh/h]	6	1316	2104	0	0	11
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.02	0.01	0.02	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	18.91	0.00	0.00	0.00	0.00	70.51
Movement LOS	C	A	A	A		F
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.00	0.56
95th-Percentile Queue Length [ft/ln]	1.74	1.74	0.00	0.00	0.00	13.94
d_A, Approach Delay [s/veh]	0.09		0.00		70.51	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 30: Locust Ave/Driveway 5**

Control Type:	Two-way stop	Delay (sec / veh):	24.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.103

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	1205	0	0	1974	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	11	22	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1220	0	11	1996	0	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	321	0	3	525	0	5
Total Analysis Volume [veh/h]	1284	0	12	2101	0	21
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.02	0.00	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	11.73	0.00	0.00	24.73
Movement LOS	A	A	B	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.07	0.00	0.34
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.68	1.68	0.00	8.51
d_A, Approach Delay [s/veh]	0.00		0.07		24.73	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	C					

**Intersection Level Of Service Report**  
**Intersection 31: Locust Ave/Driveway 6**

Control Type:	Signalized	Delay (sec / veh):	101.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.196

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	← ↑			← ↑			↑			↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		



**Volumes**

Name												
Base Volume Input [veh/h]	0	1205	0	0	1974	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	16	15	0	29	3	5	0	19	28	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	4	0	0	1	0	0	5	0	0	0
Total Hourly Volume [veh/h]	10	1221	11	0	2003	2	5	0	14	28	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	321	3	0	527	1	1	0	4	7	0	0
Total Analysis Volume [veh/h]	11	1285	12	0	2108	2	5	0	15	29	0	0
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

**Intersection Settings**

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

**Phasing & Timing**

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	9	118	0	9	118	0	0	23	0	0	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**Exclusive Pedestrian Phase**

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

**Lane Group Calculations**

Lane Group	L	C	L	C	C	C
C, Cycle Length [s]	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	2	134	0	133	4	4
g / C, Green / Cycle	0.01	0.90	0.00	0.88	0.02	0.02
(v / s)_i Volume / Saturation Flow Rate	0.01	0.72	0.00	1.17	0.01	0.02
s, saturation flow rate [veh/h]	1714	1797	1714	1800	1741	1702
c, Capacity [veh/h]	22	1610	1	1590	71	88
d1, Uniform Delay [s]	73.55	2.92	0.00	8.72	72.31	72.68
k, delay calibration	0.11	0.50	0.11	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	17.40	4.41	0.00	151.49	2.12	2.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

**Lane Group Results**

X, volume / capacity	0.51	0.81	0.00	1.33	0.28	0.33
d, Delay for Lane Group [s/veh]	90.95	7.33	0.00	160.20	74.43	74.81
Lane Group LOS	F	A	A	F	E	E
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	0.52	5.50	0.00	93.53	0.81	1.17
50th-Percentile Queue Length [ft/ln]	13.00	137.43	0.00	2338.33	20.17	29.18
95th-Percentile Queue Length [veh/ln]	0.94	9.34	0.00	138.50	1.45	2.10
95th-Percentile Queue Length [ft/ln]	23.41	233.56	0.00	3462.59	36.30	52.52

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	90.95	7.33	7.33	0.00	160.20	160.20	74.43	74.43	74.43	74.81	74.81	74.81
Movement LOS	F	A	A	A	F	F	E	E	E	E	E	E
d_A, Approach Delay [s/veh]	8.03			160.20			74.43			74.81		
Approach LOS	A			F			E			E		
d_I, Intersection Delay [s/veh]	101.59											
Intersection LOS	F											
Intersection V/C	1.196											

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.25	66.25	66.25	66.25
I_p,int, Pedestrian LOS Score for Intersection	3.704	3.080	1.766	1.762
Crosswalk LOS	D	C	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1520	1520	253	253
d_b, Bicycle Delay [s]	4.31	4.31	57.18	57.18
I_b,int, Bicycle LOS Score for Intersection	3.724	5.043	1.601	1.607
Bicycle LOS	D	F	A	A

**Sequence**




Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report  
Intersection 32: Driveway 7/Jurupa Ave**

Control Type:	Two-way stop	Delay (sec / veh):	51.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	1258	351	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	10	6	66	35	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	10	6	1324	386	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	3	2	348	102	2
Total Analysis Volume [veh/h]	11	11	6	1394	406	6
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.13	0.02	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	51.46	14.64	8.13	0.00	0.00	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.50	0.50	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.49	12.49	0.39	0.39	0.00	0.00
d_A, Approach Delay [s/veh]	33.05		0.03		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.42					
Intersection LOS	F					

**Intersection Level Of Service Report  
Intersection 33: Maple Avenue/Driveway 8**

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	99	76	76	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	5	6	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	102	81	82	10	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	27	21	22	3	0
Total Analysis Volume [veh/h]	0	107	85	86	11	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	0.00	9.82	8.95
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	1.10	1.10
d_A, Approach Delay [s/veh]	0.00		0.00		9.82	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.37					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 34: Maple Ave/Driveway 9**

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

**Intersection Setup**

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	27	0	0	31	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	6	0	19	10	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	6	0	50	10	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	2	0	13	3	0
Total Analysis Volume [veh/h]	39	6	0	53	11	0
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.28	0.00	9.01	8.53
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.92	0.92
d_A, Approach Delay [s/veh]	0.00		0.00		9.01	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.91					
Intersection LOS	A					

**Intersection Level Of Service Report  
Intersection 35: Maple Ave/Driveway 10**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

**Intersection Setup**

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

**Volumes**

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	0	27	0	0	31	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	16	2	0	29	0	0	0	0	4	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	43	2	0	60	0	0	0	0	4	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	1	0	16	0	0	0	0	1	0	0
Total Analysis Volume [veh/h]	0	45	2	0	63	0	0	0	0	4	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.32	0.00	0.00	7.29	0.00	0.00	9.12	9.59	8.57	9.14	9.61	8.52
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.34	0.34
d_A, Approach Delay [s/veh]	0.00			0.00			9.09			9.14		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.32											
Intersection LOS	A											

**Intersection Level Of Service Report  
Intersection 36: Driveway 11/Jurupa Valley**

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

**Intersection Setup**

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	0	0	927	357	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	0	0	108	58	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	0	1035	415	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	272	109	1
Total Analysis Volume [veh/h]	11	0	0	1089	437	5
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	20.12	10.23	8.19	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.45	3.45	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	20.12		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	C					

**Intersection Level Of Service Report  
Intersection 37: Linden Ave/Driveway 12**

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	168	169	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	0	0	0	0	20
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	168	169	0	0	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	44	44	0	0	5
Total Analysis Volume [veh/h]	12	177	178	0	0	21
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.57	0.00	0.00	0.00	10.90	9.24
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.64	0.64	0.00	0.00	1.85	1.85
d_A, Approach Delay [s/veh]	0.48		0.00		9.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.73					
Intersection LOS	A					



**Intersection Level Of Service Report  
Intersection 38: Linden Ave/Driveway 13**

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

**Intersection Setup**

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

**Volumes**

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	168	169	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	11	20	0	0	16
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	179	189	0	0	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	47	50	0	0	4
Total Analysis Volume [veh/h]	9	188	199	0	0	17
Pedestrian Volume [ped/h]	0		0		0	

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	7.62	0.00	0.00	0.00	11.07	9.34
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.49	0.49	0.00	0.00	1.53	1.53
d_A, Approach Delay [s/veh]	0.35		0.00		9.34	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.55					
Intersection LOS	A					

Bloomington Business Park Specific Plan

Vistro File: C:\...\Bloomington Alt ID.vistro

Scenario 12 2040 PM + P

Report File: C:\...\ID 2040 PM + P.pdf

7/12/2021

**Turning Movement Volume: Summary**

ID	Intersection Name	Northbound			Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
1	Sierra Ave/I-10 Ramps	850	2894	1153	592	1365	882	976	586	523	605	10426

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Sierra Ave/Slover Ave	166	3222	386	1557	1319	145	1200	1714	129	185	307	1746	12076

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
3	Sierra Ave/Technology St	2945	25	59	1631	15	88	4763

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4	Sierra Ave/Santa Ana Ave	237	2460	480	573	1242	97	218	1123	221	218	156	240	7265

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Laurel Ave/Santa Ana Ave	37	9	36	58	7	34	23	2311	33	20	438	17	3023

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Locust Ave/Santa Ana Ave	168	907	175	51	710	17	75	1586	1226	64	226	56	5261

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
7	Locust Ave/Jurupa Ave	790	160	1096	665	50	363	3124

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
8	Maple Ave/Santa Ana Ave	100	8	11	13	16	98	141	764	58	13	797	22	2041

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
9	Maple Ave/Jurupa Ave	56	8	13	1320	384	32	1813

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10	Linden Ave/Jurupa Ave	59	31	10	74	61	70	85	791	169	8	367	72	1797

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
11	Cedar Ave/I-10 WB Ramp	540	2971	1470	637	612	7	1013	7250

ID	Intersection Name	Northbound		Southbound		Eastbound			Total Volume
		Thru	Right	Left	Thru	Left	Thru	Right	
12	Cedar Ave/I-10 EB Ramps	2497	573	489	1628	582	2	260	6031

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
13	Cedar Ave/Orange St	1	2783	2	39	1628	234	795	11	83	1	2	121	5700

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14	Cedar Ave/Slover Ave	82	1910	66	575	1026	151	396	571	124	27	204	478	5610

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15	Cedar Ave/Santa Ana Ave	139	1328	32	76	822	95	628	375	446	26	131	68	4166

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ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16	Cedar Ave/Jurupa Ave	316	1356	249	135	1241	90	119	339	265	125	87	76	4398

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17	Cedar Ave/11th St	549	1830	20	73	1380	239	168	74	96	18	45	15	4507

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18	Cedar Ave/7th St	630	1882	14	52	1377	88	115	22	566	29	22	17	4814

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19	Cedar Ave/El Rivino Rd	9	1585	399	408	995	9	13	9	5	880	17	1001	5330

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20	Rubidoux Blvd/Market St	68	1195	807	690	1128	58	40	50	23	401	158	827	5445

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21	Agua Mansa Rd/Market St	13	16	7	460	15	828	565	680	9	8	742	401	3744

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22	Market St/24th St	80	1138	100	10	1322	4	7	46	329	368	69	52	3525

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23	Market St/Rivera St	22	1067	228	97	1768	0	0	12	73	206	5	45	3523

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ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
24	Market St/SR-60 WB Ramp	213	659	1890	170	71	760	3763

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Thru	Right	Left	Thru	Left	2	
25	Market St/SR-60 EB Ramp	976	163	551	1954	120	1165	4929

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
26	Laurel Ave/Driveway 1	61	0	11	49	0	20	141

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume	
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
27	Laurel Ave/Driveway 2	0	61	0	0	49	0	0	0	0	0	0	0	0	110

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28	Laurel Ave/Driveway 3	0	56	14	3	46	0	0	0	0	8	0	5	132

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Right		
29	Locust Ave/Driveway 4	6	1250	1999	0	10	3265	

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Right		
30	Locust Ave/Driveway 5	1220	0	11	1996	20	3247	

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31	Locust Ave/Driveway 6	10	1221	15	0	2003	3	5	0	19	28	0	0	3304

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ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
32	Driveway 7/Jurupa Ave	10	10	6	1324	386	6	1742

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
33	Maple Avenue/Driveway 8	0	102	81	82	10	0	275

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
34	Maple Ave/Driveway 9	37	6	0	50	10	0	103

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
35	Maple Ave/Driveway 10	0	43	2	0	60	0	0	0	0	4	0	0	109

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
36	Driveway 11/Jurupa Valley	10	0	0	1035	415	5	1465

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
37	Linden Ave/Driveway 12	11	168	169	0	0	20	368

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
38	Linden Ave/Driveway 13	9	179	189	0	0	16	393

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Option 1: SP 3rd EB left thru

Number	1											
Intersection	Sierra Ave/I-10 Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	800	2874	1153	592	1354	882	976	0	558	523	0	605
Total Analysis Volume [veh/h]	928	3061	911	623	1441	696	1027	0	469	551	0	478

Intersection Settings

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	48	60	0	22	34	0	48	0	0	48	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.29	0.54	0.14	0.39	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.26	0.59	0.18	0.28	0.19	0.16
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	3514	5176	3514	5176	5271	3514
c, Capacity [veh/h]	1008	2808	490	2045	1189	793
X, volume / capacity	0.92	1.09	1.27	0.70	0.86	0.69
d, Delay for Lane Group [s/veh]	48.91	76.94	181.68	34.96	50.33	47.26
Lane Group LOS	D	F	F	C	D	D



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Critical Lane Group	NO	Yes	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	14.68	39.22	16.52	12.87	10.19	7.78
50th-Percentile Queue Length [ft/ln]	366.90	980.45	413.02	321.72	254.73	194.56
95th-Percentile Queue Length [veh/ln]	20.96	53.06	25.63	18.75	15.42	12.36
95th-Percentile Queue Length [ft/ln]	523.97	1326.59	640.64	468.80	385.60	308.94

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	48.91	76.94	0.00	181.68	34.96	0.00	50.33	0.00	0.00	47.26	0.00	0.00
Movement LOS	D	F		F	C		D			D		
Critical Movement	No	No	No	Yes	No	No	No		No	No		No
d_A, Approach Delay [s/veh]	70.42			79.25			50.33			47.26		
Approach LOS	E			E			D			D		
d_I, Intersection Delay [s/veh]	68.43											
Intersection LOS	E											
Intersection V/C	0.964											

Option 1: SP EB right to EB thru-right

Number	2											
Intersection	Sierra Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	166	3151	386	1557	1280	145	1200	1714	129	185	307	1746
Total Analysis Volume [veh/h]	175	3439	304	1639	1402	115	1263	1804	102	195	323	1378

Intersection Settings

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	12	40	0	28	56	0	22	53	0	9	40	40
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.28	0.28	0.18	0.41	0.41	0.14	0.37	0.37	0.04	0.27	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.53	0.56	0.47	0.27	0.29	0.36	0.35	0.35	0.06	0.09	0.48
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1804	3514	3618	1829	3514	3618	1849	3514	3618	2859
c, Capacity [veh/h]	217	1464	510	649	1468	742	487	1340	685	136	979	1390
X, volume / capacity	0.81	1.87	1.97	2.53	0.68	0.70	2.59	0.93	0.96	1.43	0.33	0.99
d, Delay for Lane Group [s/veh]	67.06	440.65	489.99	743.60	34.19	37.67	776.12	42.94	62.97	264.57	38.16	51.83
Lane Group LOS	E	F	F	F	C	D	F	D	E	F	D	D

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Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	2.98	68.48	78.59	72.64	12.96	14.40	56.51	18.94	23.86	6.03	4.02	23.22
50th-Percentile Queue Length [ft/ln]	74.45	1712.06	1964.82	1816.06	323.93	360.12	1412.82	473.42	596.44	150.64	100.50	580.39
95th-Percentile Queue Length [veh/ln]	5.36	107.18	123.08	113.40	18.86	20.63	87.91	26.07	31.87	10.85	7.24	31.12
95th-Percentile Queue Length [ft/ln]	134.00	2679.60	3077.10	2834.91	471.52	515.73	2197.66	651.84	796.70	271.15	180.90	777.94

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	67.06	450.71	489.99	743.60	35.20	37.67	776.12	49.09	62.97	264.57	38.16	51.83
Movement LOS	E	F	F	F	D	D	F	D	E	F	D	D
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	436.62			403.19			339.29			71.38		
Approach LOS	F			F			F			E		
d_I, Intersection Delay [s/veh]	345.47											
Intersection LOS	F											
Intersection V/C	1.685											

Option 1: SP NB right to NB thru-right

Number	4											
Intersection	Sierra Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	237	2460	480	534	1242	97	218	1123	221	218	156	169
Total Analysis Volume [veh/h]	249	2589	379	617	1307	77	229	1182	175	229	164	225

Intersection Settings

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	49	0	23	57	0	20	40	0	18	38	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.08	0.35	0.35	0.15	0.41	0.41	0.12	0.28	0.28	0.11	0.26	0.26
(v / s)_i Volume / Saturation Flow Rate	0.07	0.42	0.44	0.18	0.25	0.25	0.13	0.33	0.11	0.13	0.05	0.14
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1748	3514	3618	1846	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	298	1796	607	514	1478	754	223	998	446	195	943	421
X, volume / capacity	0.84	1.22	1.27	1.20	0.62	0.62	1.03	1.18	0.39	1.17	0.17	0.53
d, Delay for Lane Group [s/veh]	64.79	148.61	175.59	150.27	32.40	34.31	93.74	133.32	38.78	149.26	37.31	42.37
Lane Group LOS	E	F	F	F	C	C	F	F	D	F	D	D

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Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.30	36.64	41.67	15.17	11.73	12.42	9.59	27.98	4.63	11.35	2.06	6.35
50th-Percentile Queue Length [ft/ln]	107.45	916.10	1041.87	379.26	293.14	310.58	239.68	699.60	115.80	283.84	51.39	158.71
95th-Percentile Queue Length [veh/ln]	7.70	52.88	60.49	23.36	17.34	18.20	14.84	40.47	8.16	17.96	3.70	10.48
95th-Percentile Queue Length [ft/ln]	192.45	1322.05	1512.23	583.93	433.54	455.09	371.02	1011.71	204.04	449.07	92.51	262.02

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	64.79	152.67	175.59	150.27	32.97	34.31	93.74	133.32	38.78	149.26	37.31	42.37
Movement LOS	E	F	F	F	C	C	F	F	D	F	D	D
Critical Movement	No	No	Yes	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	148.57			69.19			117.17			80.64		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	114.80											
Intersection LOS	F											
Intersection V/C	1.069											

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Option 1: SP EB thru

Number	5											
Intersection	Laurel Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	1	9	16	58	7	34	23	2287	13	9	394	17
Total Analysis Volume [veh/h]	63	9	52	61	7	36	24	2442	41	25	492	18

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	502	492	1254	1254	616
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	12.52	12.27	530.64	525.42	35.52
95th-Percentile Queue Length [veh]	0.97	0.79	88.59	88.21	9.99
95th-Percentile Queue Length [ft]	24.13	19.80	2214.66	2205.28	249.72
Approach Delay [s/veh]	12.52	12.27	528.03		35.52
Approach LOS	B	B	F		E
Intersection Delay [s/veh]	411.50				
Intersection LOS	F				

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**Option 1: SP Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	143	897	165	51	704	17	75	1555	1212	58	195	56
Total Analysis Volume [veh/h]	193	962	192	54	748	18	79	1686	1295	68	255	59

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	354	1154	820	1530	1530	382
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	24.38	953.52	618.24	1421.29	1302.76	99.68
95th-Percentile Queue Length [veh]	3.11	101.39	62.94	148.50	145.42	13.59
95th-Percentile Queue Length [ft]	77.76	2534.70	1573.47	3712.49	3635.43	339.80
Approach Delay [s/veh]	820.39		618.24	1362.02		99.68
Approach LOS	F		F	F		F
Intersection Delay [s/veh]	1037.24					
Intersection LOS	F					

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Option 1: SP Signalized, SB and WB left

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	784	154	1030	655	40	328
Total Analysis Volume [veh/h]	833	127	1213	707	60	298

Intersection Settings

Cycle Length [s]	150					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	131	0	0	131	19	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.85	0.85	0.85	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.55	2.04	0.39	0.04	0.19
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800
Arrival type	3	3	3	3	3
s, saturation flow rate [veh/h]	1759	594	1800	1714	1530
c, Capacity [veh/h]	1489	430	1523	172	153
X, volume / capacity	0.64	2.82	0.46	0.35	1.94
d, Delay for Lane Group [s/veh]	6.06	858.90	3.93	64.05	511.14
Lane Group LOS	A	F	A	E	F



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Critical Lane Group	No	Yes	No	NO	Yes
50th-Percentile Queue Length [veh/ln]	6.87	115.34	4.52	2.21	24.82
50th-Percentile Queue Length [ft/ln]	171.82	2883.38	112.91	55.21	620.40
95th-Percentile Queue Length [veh/ln]	11.17	204.78	8.00	3.97	39.64
95th-Percentile Queue Length [ft/ln]	279.30	5119.44	200.05	99.37	990.98

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	6.06	6.06	858.90	3.93	64.05	511.14
Movement LOS	A	A	F	A	E	F
Critical Movement	No	No	Yes	No	No	No
d_A, Approach Delay [s/veh]	6.06		544.07		436.21	
Approach LOS	A		F		F	
d_I, Intersection Delay [s/veh]	372.64					
Intersection LOS	F					
Intersection V/C	2.236					

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**Option 1: SP Add EB thru**

Number	8											
Intersection	Maple Ave/Santa Ana Ave											
Control Type	Two-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	80	8	11	13	16	98	141	734	47	13	780	22
Total Analysis Volume [veh/h]	118	8	12	14	17	103	148	825	65	14	844	23

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0




**Capacity Analysis**

Calculated Rank	4	3	2	4	3	2	2	1	1	2	1	1
v_c, Conflicting Flow Rate	1664	2049	445	1596	2070	434	867	0	0	890	0	0
v_c, Stage 1	1154	1154	445	884	884	434	867	0	0	890	0	0
v_c, Stage 2	510	895	0	713	1186	0	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	65	57	566	73	55	576	785	0	0	770	0	0
c_p,x, Stage 1 [veh/h]	213	274	1328	311	366	1322	2108	0	0	2122	0	0
c_p,x, Stage 2 [veh/h]	519	362	1091	394	265	1091	1636	0	0	1636	0	0
c_m,x, Movement Capacity [veh/h]	28	40	566	48	39	576	785	100000	100000	770	100000	100000
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	28	40	566	48	39	576	785	100000	100000	770	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	4.21	0.20	0.02	0.29	0.43	0.18	0.19	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	1814.92	1775.51	1692.76	161.78	177.89	92.28	10.65	0.00	0.00	9.76	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	A	A	A
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	16.49	16.49	16.49	6.28	6.28	6.28	0.69	0.35	0.00	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	412.37	412.37	412.37	157.09	157.09	157.09	17.27	8.63	0.00	1.39	1.39	1.39
d_A, Approach Delay [s/veh]	1802.01			110.40			1.52			0.16		
Approach LOS	F			F			A			A		
V/C_I, Worst Movement V/C Ratio	4.21											
d_I, Worst Movement Control Delay [s/veh]	1814.92											
d_I, Intersection Delay [s/veh]	121.03											
Intersection LOS	F											

**Option 1: SP WB thru and Two Stage Gap**

Number	9					
Intersection	Maple Ave/Jurupa Ave					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Base Volume Input [veh/h]	23	8	13	1245	343	14
Total Analysis Volume [veh/h]	85	8	14	1456	420	40

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	100	0	0

**Capacity Analysis**

Calculated Rank	3	2	2	1	1	1
v_c, Conflicting Flow Rate	1196	230	460	0	0	0
v_c, Stage 1	440	230	460	0	0	0
v_c, Stage 2	756	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	182	779	1112	0	0	0
c_p,x, Stage 1 [veh/h]	622	1210	1877	0	0	0
c_p,x, Stage 2 [veh/h]	430	1091	1636	0	0	0
c_m,x, Movement Capacity [veh/h]	170	779	1112	100000	100000	100000
c_m,x, Stage 1 [veh/h]	622	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	401	0	0	0	0	0
c_T, Total Capacity [veh/h]	401	779	1112	100000	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.21	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	16.41	12.06	8.28	0.00	0.00	0.00
Movement LOS	C	B	A	A	A	A
Critical Movement	Yes	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.84	0.84	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	20.98	20.98	0.96	0.96	0.00	0.00
d_A, Approach Delay [s/veh]	16.03		0.08		0.00	
Approach LOS	C		A		A	
V/C_I, Worst Movement V/C Ratio	0.21					
d_I, Worst Movement Control Delay [s/veh]	16.41					
d_I, Intersection Delay [s/veh]	0.79					
Intersection LOS	C					

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Option 1: SP 2nd EB thru

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			⇄			⇄		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	59	31	10	38	61	70	85	673	169	8	304	52
Total Analysis Volume [veh/h]	62	33	11	102	64	74	89	934	178	8	412	82

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	449	496	601	601	488	540
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	13.47	16.90	113.65	95.47	40.83	10.57
95th-Percentile Queue Length [veh]	0.91	2.61	20.84	19.04	9.02	0.53
95th-Percentile Queue Length [ft]	22.68	65.14	521.07	475.95	225.48	13.32
Approach Delay [s/veh]	13.47	16.90	104.56		35.89	
Approach LOS	B		C		E	
Intersection Delay [s/veh]	72.76					
Intersection LOS	F					

Option 1: SP SB thru to SB thru-right, add NB thru

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	498	2952	0	0	1459	637	0	0	0	585	7	1013
Total Analysis Volume [veh/h]	606	3143	0	0	1551	503	0	0	0	654	7	800

**Intersection Settings**

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	38	73	0	0	35	0	0	0	0	0	47	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.28	0.58	0.26	0.26	0.26		0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.35	0.64	0.29	0.31	0.31		0.41	0.45
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3				3	3
s, saturation flow rate [veh/h]	1714	4903	3618	1682	1615		1790	1615
c, Capacity [veh/h]	486	2822	936	435	418		640	578
X, volume / capacity	1.25	1.11	1.10	1.19	1.20		1.14	1.26
d, Delay for Lane Group [s/veh]	170.64	82.27	106.75	149.86	156.74		119.66	170.85
Lane Group LOS	F	F	F	F	F		F	F

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Critical Lane Group	Yes	NO	NO	NO	Yes		NO	Yes
50th-Percentile Queue Length [veh/ln]	31.46	39.82	21.89	25.56	25.35		32.89	37.89
50th-Percentile Queue Length [ft/ln]	786.49	995.52	547.13	639.09	633.63		822.18	947.24
95th-Percentile Queue Length [veh/ln]	46.13	54.73	31.34	37.31	37.26		46.18	55.47
95th-Percentile Queue Length [ft/ln]	1153.30	1368.30	783.51	932.86	931.61		1154.45	1386.85

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	170.64	82.27	0.00	0.00	111.80	156.74	0.00	0.00	0.00	119.66	119.66	166.40
Movement LOS	F	F			F	F				F	F	F
Critical Movement	Yes	No			No	No				No	No	No
d_A, Approach Delay [s/veh]	96.56				129.84		0.00				145.25	
Approach LOS	F				F		A				F	
d_I, Intersection Delay [s/veh]	115.76											
Intersection LOS	F											
Intersection V/C	1.117											

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**Option 1: SP EB right turn**

Number	12											
Intersection	Cedar Ave/I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↙↑↑			↙↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	2436	524	489	1591	0	582	2	237	0	0	0
Total Analysis Volume [veh/h]	0	2682	481	515	1727	0	613	2	213	0	0	0

**Intersection Settings**

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	49	0	31	80	0	0	20	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.45	0.45	0.27	0.76	0.16	0.16	0.16	
(v / s)_i Volume / Saturation Flow Rate	0.52	0.30	0.30	0.48	0.18	0.18	0.14	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1715	1530	
c, Capacity [veh/h]	2326	726	463	2747	275	275	246	
X, volume / capacity	1.15	0.66	1.11	0.63	1.12	1.12	0.87	
d, Delay for Lane Group [s/veh]	101.85	26.32	110.72	6.64	109.82	109.75	49.92	
Lane Group LOS	F	C	F	A	F	F	D	

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Critical Lane Group	Yes	No	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	33.47	9.45	20.58	6.68	11.89	11.89	5.67	
50th-Percentile Queue Length [ft/ln]	836.70	236.23	514.49	167.06	297.20	297.16	141.79	
95th-Percentile Queue Length [veh/ln]	47.54	14.49	29.83	10.92	18.46	18.46	9.58	
95th-Percentile Queue Length [ft/ln]	1188.47	362.26	745.86	273.05	461.51	461.42	239.44	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	101.85	26.32	110.72	6.64	0.00	109.79	109.75	49.92	0.00	0.00	0.00
Movement LOS		F	C	F	A		F	F	D			
Critical Movement		No	No	Yes	No		No	No	No			
d_A, Approach Delay [s/veh]	90.37			30.54			94.39			0.00		
Approach LOS	F			C			F			A		
d_I, Intersection Delay [s/veh]	69.38											
Intersection LOS	E											
Intersection V/C	0.998											



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**Option 1: SP Split Phase**

Number	13											
Intersection	Cedar Ave/Orange St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	1	2673	2	39	1568	234	795	11	83	1	2	121
Total Analysis Volume [veh/h]	1	3020	1	41	1737	184	837	12	65	1	2	96

**Intersection Settings**

Cycle Length [s]	170											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	80	90	0	9	19	0	0	59	0	0	12	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.56	0.51	0.51	0.56	0.53	0.53	0.32	0.32	0.05		
(v / s)_i Volume / Saturation Flow Rate	0.00	0.80	0.80	0.22	0.48	0.11	0.49	0.05	0.06		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	316	1900	1900	187	3618	1615	1714	1654	1622		
c, Capacity [veh/h]	120	971	971	127	1934	864	553	534	76		
X, volume / capacity	0.01	1.56	1.56	0.32	0.90	0.21	1.51	0.14	1.30		
d, Delay for Lane Group [s/veh]	31.86	296.90	296.98	46.76	42.49	21.33	297.54	41.01	234.17		
Lane Group LOS	C	F	F	D	D	C	F	D	F		

Version 2021 (SP 0-2)

Critical Lane Group	No	NO	Yes	Yes	NO	NO	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.02	109.00	109.01	0.99	33.83	4.10	60.64	2.37	6.62
50th-Percentile Queue Length [ft/ln]	0.47	2724.91	2725.14	24.69	845.65	102.57	1515.96	59.17	165.50
95th-Percentile Queue Length [veh/ln]	0.03	165.71	165.73	1.78	43.36	7.38	91.51	4.26	11.57
95th-Percentile Queue Length [ft/ln]	0.85	4142.71	4143.22	44.44	1084.10	184.62	2287.74	106.50	289.26

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	31.86	296.94	296.98	46.76	42.49	21.33	297.54	41.01	41.01	234.17	234.17	234.17
Movement LOS	C	F	F	D	D	C	F	D	D	F	F	F
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	296.85			40.60			275.93			234.17		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	208.79											
Intersection LOS	F											
Intersection V/C	1.356											

Version 2021 (SP 0-2)

Option 1: SP 2nd EB left

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	82	1800	66	575	966	151	396	571	124	27	204	478
Total Analysis Volume [veh/h]	86	2101	52	605	1103	119	417	601	98	28	215	377

Intersection Settings

Cycle Length [s]	150											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	62	0	41	90	0	17	38	0	9	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.39	0.39	0.25	0.57	0.57	0.09	0.24	0.24	0.02	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.57	0.57	0.35	0.32	0.33	0.13	0.18	0.06	0.02	0.11	0.23
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1884	1714	1900	1837	3329	3427	1530	1714	1900	1615
c, Capacity [veh/h]	103	736	730	423	1091	1054	289	809	361	39	328	278
X, volume / capacity	0.84	1.46	1.47	1.43	0.56	0.58	1.44	0.74	0.27	0.71	0.66	1.35
d, Delay for Lane Group [s/veh]	85.55	261.28	266.82	263.63	22.18	22.64	272.71	54.44	47.16	93.49	60.64	243.11
Lane Group LOS	F	F	F	F	C	C	F	D	D	F	E	F

Version 2021 (SP 0-2)

Critical Lane Group	No	No	Yes	Yes	NO	NO	Yes	NO	NO	NO	NO	Yes
50th-Percentile Queue Length [veh/ln]	3.74	71.28	71.80	40.33	14.11	14.21	13.75	10.69	3.07	1.30	7.90	24.63
50th-Percentile Queue Length [ft/ln]	93.41	1782.01	1795.06	1008.13	352.77	355.34	343.71	267.37	76.72	32.60	197.59	615.69
95th-Percentile Queue Length [veh/ln]	6.73	106.36	107.43	60.65	20.27	20.40	22.27	16.06	5.52	2.35	12.51	37.50
95th-Percentile Queue Length [ft/ln]	168.14	2658.99	2685.86	1516.36	506.78	509.92	556.74	401.45	138.10	58.68	312.85	937.41

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	85.55	263.98	266.82	263.63	22.39	22.64	272.71	54.44	47.16	93.49	60.64	243.11
Movement LOS	F	F	F	F	C	C	F	D	D	F	E	F
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	257.19			102.29			135.36			173.08		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	175.99											
Intersection LOS	F											
Intersection V/C	1.283											

Version 2021 (SP 0-2)

Option 1: SP EB and WB left

Number	15											
Intersection	Cedar Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	139	1248	32	76	779	78	598	375	446	26	131	68
Total Analysis Volume [veh/h]	146	1468	25	80	883	79	682	395	352	27	138	54

Intersection Settings

Cycle Length [s]	125											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	15	47	0	10	42	0	0	68	0	0	68	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.09	0.34	0.34	0.05	0.30	0.30	0.51	0.51	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.09	0.39	0.39	0.05	0.26	0.26	0.56	0.43	0.04	0.11
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3
s, saturation flow rate [veh/h]	1714	1900	1889	1714	1900	1846	1210	1754	725	1810
c, Capacity [veh/h]	151	655	652	82	579	563	582	896	149	925
X, volume / capacity	0.97	1.14	1.14	0.97	0.84	0.84	1.17	0.83	0.18	0.21
d, Delay for Lane Group [s/veh]	83.66	121.73	123.02	98.57	54.48	54.84	132.82	32.48	50.24	16.83
Lane Group LOS	F	F	F	F	D	D	F	C	D	B

Version 2021 (SP 0-2)

Critical Lane Group	NO	NO	Yes	Yes	NO	NO	Yes	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	5.72	34.60	34.63	3.43	16.19	15.79	33.83	19.92	0.78	2.95
50th-Percentile Queue Length [ft/ln]	142.98	864.91	865.67	85.72	404.80	394.70	845.77	498.03	19.54	73.86
95th-Percentile Queue Length [veh/ln]	9.64	48.28	48.39	6.17	22.79	22.30	48.71	27.24	1.41	5.32
95th-Percentile Queue Length [ft/ln]	241.04	1206.94	1209.85	154.30	569.78	557.61	1217.69	681.03	35.17	132.96

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	83.66	122.36	123.02	98.57	54.64	54.84	132.82	32.48	32.48	50.24	16.83	16.83
Movement LOS	F	F	F	F	D	D	F	C	C	D	B	B
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	118.93			58.03			80.37			20.95		
Approach LOS	F			E			F			C		
d_I, Intersection Delay [s/veh]	86.58											
Intersection LOS	F											
Intersection V/C	1.005											

Version 2021 (SP 0-2)

Option 1: SP EB left

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	282	1356	249	135	1241	47	39	329	201	125	81	76
Total Analysis Volume [veh/h]	346	1427	197	142	1306	84	196	364	244	132	93	60

Intersection Settings

Cycle Length [s]	115											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	24	51	0	13	40	0	0	51	0	0	51	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.17	0.41	0.41	0.08	0.31	0.31	0.41	0.41	0.41	0.41	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.20	0.43	0.45	0.08	0.37	0.37	0.15	0.19	0.15	0.27	0.04	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1822	1714	1900	1860	1324	1900	1615	826	1615	1615
c, Capacity [veh/h]	298	778	746	134	597	584	166	775	659	387	659	659
X, volume / capacity	1.16	1.04	1.09	1.06	1.17	1.18	1.18	0.47	0.37	0.58	0.09	0.09
d, Delay for Lane Group [s/veh]	139.26	78.06	93.41	105.45	134.26	137.81	149.91	25.39	24.11	38.81	21.01	21.01
Lane Group LOS	F	F	F	F	F	F	F	C	C	D	C	C

Version 2021 (SP 0-2)

Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	16.08	30.62	32.54	5.82	32.27	32.17	9.20	7.31	4.67	5.93	1.01
50th-Percentile Queue Length [ft/ln]	402.09	765.40	813.51	145.56	806.81	804.24	230.02	182.71	116.70	148.14	25.23
95th-Percentile Queue Length [veh/ln]	24.34	40.97	44.54	9.97	45.95	45.98	15.59	11.74	8.21	9.92	1.82
95th-Percentile Queue Length [ft/ln]	608.39	1024.23	1113.44	249.15	1148.64	1149.61	389.73	293.56	205.28	247.94	45.41

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	139.26	84.68	93.41	105.45	135.90	137.81	149.91	25.39	24.11	38.81	38.81	21.01
Movement LOS	F	F	F	F	F	F	F	C	C	D	D	C
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	95.14			133.19			55.36			35.06		
Approach LOS	F			F			E			D		
d_I, Intersection Delay [s/veh]	97.14											
Intersection LOS	F											
Intersection V/C	0.845											



Version 2021 (SP 0-2)

Option 1: SP EB left

Number	17											
Intersection	Cedar Ave/11th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	549	1796	20	73	1316	239	168	74	96	18	45	15
Total Analysis Volume [veh/h]	578	1940	16	77	1500	188	177	78	76	19	47	12

Intersection Settings

Cycle Length [s]	135											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	49	98	0	11	60	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.33	0.72	0.72	0.05	0.44	0.44	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.34	0.51	0.52	0.04	0.45	0.46	0.09	0.12	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1895	1714	1900	1828	1365	1696	1686
c, Capacity [veh/h]	570	1373	1369	89	841	809	166	265	263
X, volume / capacity	1.01	0.71	0.71	0.86	1.01	1.04	0.74	0.78	0.30
d, Delay for Lane Group [s/veh]	85.48	13.87	13.95	83.77	71.34	79.21	64.22	62.77	53.16
Lane Group LOS	F	B	B	F	F	F	E	E	D

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	25.28	16.36	16.42	3.14	35.08	35.51	4.41	7.39	2.45
50th-Percentile Queue Length [ft/ln]	632.01	409.11	410.57	78.43	877.01	887.78	110.22	184.68	61.17
95th-Percentile Queue Length [veh/ln]	33.87	23.00	23.07	5.65	45.18	46.59	7.85	11.84	4.40
95th-Percentile Queue Length [ft/ln]	846.68	574.97	576.72	141.18	1129.47	1164.70	196.30	296.12	110.10

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	85.48	13.91	13.95	83.77	74.75	79.21	64.07	62.77	62.77	53.16	53.16	53.16
Movement LOS	F	B	B	F	E	E	E	E	E	D	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	30.23			75.62			63.31			53.16		
Approach LOS	C			E			E			D		
d_I, Intersection Delay [s/veh]	49.95											
Intersection LOS	D											
Intersection V/C	0.918											

Version 2021 (SP 0-2)

**Option 1: SP EB left**

Number	18											
Intersection	Cedar Ave/7th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	630	1853	14	52	1323	78	109	22	566	29	22	17
Total Analysis Volume [veh/h]	663	1992	11	55	1491	75	122	23	446	31	23	14

**Intersection Settings**

Cycle Length [s]	115											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	41	76	0	9	44	0	0	30	0	0	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.32	0.63	0.63	0.04	0.35	0.35	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.39	0.53	0.53	0.03	0.41	0.42	0.09	0.29	0.07
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1896	1714	1900	1868	1393	1627	929
c, Capacity [veh/h]	551	1193	1191	71	661	650	297	400	256
X, volume / capacity	1.20	0.84	0.84	0.78	1.19	1.20	0.41	1.17	0.27
d, Delay for Lane Group [s/veh]	146.68	23.99	24.12	71.00	137.83	141.64	40.01	147.13	36.44
Lane Group LOS	F	C	C	E	F	F	D	F	D

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	31.75	21.40	21.47	1.90	36.59	36.67	3.08	22.84	1.60
50th-Percentile Queue Length [ft/ln]	793.64	535.00	536.64	47.49	914.85	916.77	76.88	571.04	39.91
95th-Percentile Queue Length [veh/ln]	45.90	28.99	29.06	3.42	52.05	52.36	5.54	33.45	2.87
95th-Percentile Queue Length [ft/ln]	1147.62	724.67	726.59	85.48	1301.16	1308.89	138.38	836.37	71.83

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	146.68	24.05	24.12	71.00	139.63	141.64	40.01	147.13	147.13	36.44	36.44	36.44
Movement LOS	F	C	C	E	F	F	D	F	F	D	D	D
Critical Movement	No	No	No	No	No	No	No	No	Yes	No	No	No
d_A, Approach Delay [s/veh]	54.55			137.39			125.02			36.44		
Approach LOS	D			F			F			D		
d_I, Intersection Delay [s/veh]	89.87											
Intersection LOS	F											
Intersection V/C	1.092											

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Option 1: SP 2nd SB left turn

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	68	1187	807	651	1113	58	40	50	23	401	158	806
Total Analysis Volume [veh/h]	72	1261	637	757	1198	45	42	53	18	422	166	659

Intersection Settings

Cycle Length [s]	145											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	48	0	32	69	0	0	19	0	0	46	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.35	0.35	0.19	0.50	0.50	0.05	0.05	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.35	0.39	0.22	0.33	0.03	0.02	0.04	0.32
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1810	3618	1615	3514	3618	1615	1810	1819	1834
c, Capacity [veh/h]	88	1284	573	679	1806	806	96	96	529
X, volume / capacity	0.81	0.98	1.11	1.11	0.66	0.06	0.44	0.74	1.11
d, Delay for Lane Group [s/veh]	84.41	67.58	118.83	115.28	29.13	18.84	69.69	78.08	124.55
Lane Group LOS	F	E	F	F	C	B	E	E	F

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.05	26.16	31.99	17.81	15.97	0.83	1.60	2.88	29.90
50th-Percentile Queue Length [ft/ln]	76.33	653.88	799.80	445.37	399.17	20.74	39.99	72.11	747.47
95th-Percentile Queue Length [veh/ln]	5.50	34.54	44.34	26.17	22.52	1.49	2.88	5.19	41.53
95th-Percentile Queue Length [ft/ln]	137.39	863.56	1108.53	654.35	563.00	37.34	71.99	129.80	1038.14

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	84.41	67.58	118.83	115.28	29.13	18.84	69.69	78.08	78.08	124.55	124.55	0.00
Movement LOS	F	E	F	F	C	B	E	E	E	F	F	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	84.77			61.50			74.96			124.55		
Approach LOS	F			E			E			F		
d_I, Intersection Delay [s/veh]	79.58											
Intersection LOS	E											
Intersection V/C	0.969											

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Option 1: SP WB left

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	80	1117	100	10	1283	4	7	46	329	368	69	52
Total Analysis Volume [veh/h]	84	1206	79	11	1422	3	7	48	260	387	73	41

Intersection Settings

Cycle Length [s]	150											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	92	0	9	91	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.04	0.61	0.61	0.01	0.58	0.58	0.15	0.15	0.13	0.13	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.63	0.05	0.01	0.75	0.00	0.03	0.16	0.11	0.06	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	3514	1787	
c, Capacity [veh/h]	74	1155	982	23	1102	937	278	237	441	224	
X, volume / capacity	1.14	1.04	0.08	0.47	1.29	0.00	0.20	1.09	0.88	0.51	
d, Delay for Lane Group [s/veh]	165.11	68.22	12.29	87.31	168.92	13.25	56.53	137.74	70.16	63.03	
Lane Group LOS	F	F	B	F	F	B	E	F	E	E	

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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	4.75	52.07	1.16	0.51	80.44	0.05	1.88	13.95	7.65	4.20
50th-Percentile Queue Length [ft/ln]	118.68	1301.84	29.04	12.84	2010.95	1.14	46.88	348.82	191.14	104.90
95th-Percentile Queue Length [veh/ln]	8.54	66.44	2.09	0.92	115.13	0.08	3.38	20.94	12.18	7.55
95th-Percentile Queue Length [ft/ln]	213.62	1661.01	52.27	23.10	2878.37	2.05	84.39	523.62	304.51	188.82




**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	165.11	68.22	12.29	87.31	168.92	13.25	56.53	56.53	137.74	70.16	63.03	63.03
Movement LOS	F	F	B	F	F	B	E	E	F	E	E	E
Critical Movement	No	No	No	No	Yes	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	70.94			167.97			123.56			68.54		
Approach LOS	E			F			F			E		
d_I, Intersection Delay [s/veh]	113.66											
Intersection LOS	F											
Intersection V/C	1.066											



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Option 1: SP 2nd SB left

Number	25											
Intersection	Market St/SR-60 EB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Base Volume Input [veh/h]	0	976	163	512	1954	0	120	0	1165	0	0	0
Total Analysis Volume [veh/h]	0	1027	128	611	2057	0	126	0	920	0	0	0

Intersection Settings

Cycle Length [s]	80											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	31	0	19	50	0	30	0	0	0	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.34	0.19	0.58	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.17	0.57	0.07	0.32	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	
Arrival type	3	3	3	3	3	
s, saturation flow rate [veh/h]	3618	3514	3618	1810	2859	
c, Capacity [veh/h]	1219	663	2082	588	928	
X, volume / capacity	0.84	0.92	0.99	0.21	0.99	
d, Delay for Lane Group [s/veh]	31.76	37.89	33.83	19.83	38.79	
Lane Group LOS	C	D	C	B	D	

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Critical Lane Group	No	NO	Yes	NO	Yes	
50th-Percentile Queue Length [veh/ln]	9.72	6.16	20.59	1.67	9.76	
50th-Percentile Queue Length [ft/ln]	242.90	154.00	514.81	41.82	243.94	
95th-Percentile Queue Length [veh/ln]	14.83	10.23	28.03	3.01	14.88	
95th-Percentile Queue Length [ft/ln]	370.69	255.75	700.86	75.28	372.01	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	31.76	0.00	37.89	33.83	0.00	19.83	0.00	38.79	0.00	0.00	0.00
Movement LOS		C		D	C		B		D			
Critical Movement		No	No	No	No		No		Yes			
d_A, Approach Delay [s/veh]	31.76			34.76			36.51			0.00		
Approach LOS	C			C			D			A		
d_I, Intersection Delay [s/veh]	34.50											
Intersection LOS	C											
Intersection V/C	0.890											

**Option 1: SP Add NB and SB thru**

Number	29					
Intersection	Locust Ave/Driveway 4					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Base Volume Input [veh/h]	0	1205	1974	0	0	0
Total Analysis Volume [veh/h]	7	1346	2113	0	0	18

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Capacity Analysis**

Calculated Rank	2	1	1	1	0	2
v_c, Conflicting Flow Rate	2113	0	0	0	0	1057
v_c, Stage 1	2113	0	0	0	0	1057
v_c, Stage 2	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	263	0	0	0	0	225
c_p,x, Stage 1 [veh/h]	2914	0	0	0	0	1703
c_p,x, Stage 2 [veh/h]	1636	0	0	0	0	1091
c_m,x, Movement Capacity [veh/h]	263	100000	100000	100000	0	225
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	263	100000	100000	100000	0	225

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.03	0.01	0.02	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	19.08	0.00	0.00	0.00	0.00	22.40
Movement LOS	C	A	A	A		C
Critical Movement	No	No	No			Yes
95th-Percentile Queue Length [veh/ln]	0.08	0.04	0.00	0.00	0.00	0.26
95th-Percentile Queue Length [ft/ln]	2.05	1.02	0.00	0.00	0.00	6.46
d_A, Approach Delay [s/veh]	0.10		0.00		22.40	
Approach LOS	A		A		C	
V/C_I, Worst Movement V/C Ratio	0.08					
d_I, Worst Movement Control Delay [s/veh]	22.40					
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	C					

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**Option 1: SP Add NB and SB thru**

Number	30					
Intersection	Locust Ave/Driveway 5					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration	<b>⇌</b>		<b>⇌</b>		<b>↶</b>	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	1205	0	0	1974	0	0
Total Analysis Volume [veh/h]	1292	0	16	2117	0	35

**Intersection Settings**

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

**Capacity Analysis**

Calculated Rank	1	1	2	1	0	2
v_c, Conflicting Flow Rate	0	0	1292	0	0	646
v_c, Stage 1	0	0	1292	0	0	646
v_c, Stage 2	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	0	0	543	0	0	419
c_p,x, Stage 1 [veh/h]	0	0	2367	0	0	1446
c_p,x, Stage 2 [veh/h]	0	0	1636	0	0	1091
c_m,x, Movement Capacity [veh/h]	100000	100000	543	100000	0	419
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	100000	100000	543	100000	0	419

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.02	0.00	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	11.83	0.00	0.00	14.37
Movement LOS	A	A	B	A		B
Critical Movement	No		No	No		Yes
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.05	0.00	0.27
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.27	1.14	0.00	6.80
d_A, Approach Delay [s/veh]	0.00		0.09		14.37	
Approach LOS	A		A		B	
V/C_I, Worst Movement V/C Ratio	0.08					
d_I, Worst Movement Control Delay [s/veh]	14.37					
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	B					

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Option 1: SP Add NB and SB thru

Number	31											
Intersection	Locust Ave/Driveway 6											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	1205	0	0	1974	0	0	0	0	0	0	0
Total Analysis Volume [veh/h]	15	1291	17	0	2132	3	8	0	27	55	0	0

Intersection Settings

Cycle Length [s]	110											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	78	0	9	77	0	0	23	0	0	23	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.02	0.85	0.85	0.00	0.83	0.83	0.04	0.04
(v / s)_i Volume / Saturation Flow Rate	0.01	0.36	0.36	0.00	0.59	0.59	0.02	0.03
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3	3
s, saturation flow rate [veh/h]	1714	1800	1792	1714	1800	1799	1723	1600
c, Capacity [veh/h]	29	1527	1520	1	1497	1497	112	132
X, volume / capacity	0.51	0.43	0.43	0.00	0.71	0.71	0.31	0.42
d, Delay for Lane Group [s/veh]	66.49	2.87	2.87	0.00	6.74	6.75	53.16	54.33
Lane Group LOS	E	A	A	A	A	A	D	D

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.51	1.47	1.47	0.00	7.13	7.13	0.99	1.58
50th-Percentile Queue Length [ft/ln]	12.66	36.76	36.67	0.00	178.19	178.34	24.80	39.45
95th-Percentile Queue Length [veh/ln]	0.91	2.65	2.64	0.00	11.51	11.51	1.79	2.84
95th-Percentile Queue Length [ft/ln]	22.78	66.16	66.00	0.00	287.65	287.85	44.64	71.01

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	66.49	2.87	2.87	0.00	6.74	6.75	53.16	53.16	53.16	54.33	54.33	54.33
Movement LOS	E	A	A	A	A	A	D	D	D	D	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	3.59			6.74			53.16			54.33		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	6.76											
Intersection LOS	A											
Intersection V/C	0.636											

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**Option 1: SP WB thru**

Number	32					
Intersection	Driveway 7/Jurupa Ave					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Base Volume Input [veh/h]	0	0	0	1258	351	0
Total Analysis Volume [veh/h]	18	18	7	1453	421	7

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

**Capacity Analysis**

Calculated Rank	3	2	2	1	1	1
v_c, Conflicting Flow Rate	1165	214	428	0	0	0
v_c, Stage 1	425	214	428	0	0	0
v_c, Stage 2	741	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	190	797	1142	0	0	0
c_p,x, Stage 1 [veh/h]	634	1201	1860	0	0	0
c_p,x, Stage 2 [veh/h]	438	1091	1636	0	0	0
c_m,x, Movement Capacity [veh/h]	184	797	1142	100000	100000	100000
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	184	797	1142	100000	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.10	0.02	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	26.17	11.15	8.17	0.00	0.00	0.00
Movement LOS	D	B	A	A	A	A
Critical Movement	Yes	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.41	0.41	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.13	10.13	0.46	0.46	0.00	0.00
d_A, Approach Delay [s/veh]	18.66		0.04		0.00	
Approach LOS	C		A		A	
V/C_I, Worst Movement V/C Ratio	0.10					
d_I, Worst Movement Control Delay [s/veh]	26.17					
d_I, Intersection Delay [s/veh]	0.38					
Intersection LOS	D					

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Option 2: OY 1 3rd EB left thru

Number	1											
Intersection	Sierra Ave/I-10 Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	800	2874	1153	592	1354	882	976	0	558	523	0	605
Total Analysis Volume [veh/h]	882	3041	911	623	1433	696	1027	0	456	551	0	478

Intersection Settings

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	50	57	0	25	32	0	48	0	0	48	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.28	0.52	0.16	0.41	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.25	0.59	0.18	0.28	0.19	0.16
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	3514	5176	3514	5176	5271	3514
c, Capacity [veh/h]	967	2689	571	2105	1189	793
X, volume / capacity	0.91	1.13	1.09	0.68	0.86	0.69
d, Delay for Lane Group [s/veh]	49.30	95.39	102.68	33.40	50.33	47.26
Lane Group LOS	D	F	F	C	D	D



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Critical Lane Group	NO	Yes	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	13.93	42.10	13.07	12.46	10.19	7.78
50th-Percentile Queue Length [ft/ln]	348.23	1052.49	326.68	311.50	254.73	194.56
95th-Percentile Queue Length [veh/ln]	20.05	58.02	19.81	18.25	15.42	12.36
95th-Percentile Queue Length [ft/ln]	501.25	1450.49	495.23	456.22	385.60	308.94

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.30	95.39	0.00	102.68	33.40	0.00	50.33	0.00	0.00	47.26	0.00	0.00
Movement LOS	D	F		F	C		D			D		
Critical Movement	No	No	No	Yes	No	No	No		No	No		No
d_A, Approach Delay [s/veh]	85.03			54.39			50.33			47.26		
Approach LOS	F			D			D			D		
d_I, Intersection Delay [s/veh]	69.22											
Intersection LOS	E											
Intersection V/C	0.960											

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Option 2: OY 1 EB right to EB thru-right

Number	2											
Intersection	Sierra Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	166	3151	386	1557	1280	145	1200	1714	129	185	307	1746
Total Analysis Volume [veh/h]	175	3373	304	1639	1376	115	1263	1804	102	195	323	1378

Intersection Settings

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	12	40	0	28	56	0	22	53	0	9	40	40
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.28	0.28	0.18	0.41	0.41	0.14	0.37	0.37	0.04	0.27	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.52	0.55	0.47	0.27	0.28	0.36	0.35	0.35	0.06	0.09	0.48
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1802	3514	3618	1828	3514	3618	1849	3514	3618	2859
c, Capacity [veh/h]	217	1464	510	649	1468	742	487	1340	685	136	979	1390
X, volume / capacity	0.81	1.84	1.93	2.53	0.67	0.69	2.59	0.93	0.96	1.43	0.33	0.99
d, Delay for Lane Group [s/veh]	67.06	426.36	473.96	743.60	33.86	37.19	776.12	42.94	62.97	264.57	38.16	51.83
Lane Group LOS	E	F	F	F	C	D	F	D	E	F	D	D

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Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.98	66.54	76.24	72.64	12.64	14.03	56.51	18.94	23.86	6.03	4.02	23.22
50th-Percentile Queue Length [ft/ln]	74.45	1663.61	1906.12	1816.06	315.98	350.87	1412.82	473.42	596.44	150.64	100.50	580.39
95th-Percentile Queue Length [veh/ln]	5.36	104.00	119.26	113.40	18.47	20.18	87.91	26.07	31.87	10.85	7.24	31.12
95th-Percentile Queue Length [ft/ln]	134.00	2599.98	2981.46	2834.91	461.75	504.47	2197.66	651.84	796.70	271.15	180.90	777.94

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	67.06	435.98	473.96	743.60	34.83	37.19	776.12	49.09	62.97	264.57	38.16	51.83
Movement LOS	E	F	F	F	C	D	F	D	E	F	D	D
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	422.21			406.06			339.29			71.38		
Approach LOS	F			F			F			E		
d_I, Intersection Delay [s/veh]	340.99											
Intersection LOS	F											
Intersection V/C	1.674											

Version 2021 (SP 0-2)

Option 2: OY 1 NB right to NB thru-right

Number	4											
Intersection	Sierra Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	237	2460	480	534	1242	97	218	1123	221	218	156	169
Total Analysis Volume [veh/h]	249	2589	379	591	1307	77	229	1182	175	229	164	175

Intersection Settings

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	50	0	22	57	0	22	40	0	18	36	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.08	0.35	0.35	0.14	0.41	0.41	0.14	0.28	0.28	0.11	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.42	0.44	0.17	0.25	0.25	0.13	0.33	0.11	0.13	0.05	0.11
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1748	3514	3618	1846	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	298	1836	620	487	1478	754	251	998	446	195	887	396
X, volume / capacity	0.84	1.20	1.24	1.21	0.62	0.62	0.91	1.18	0.39	1.17	0.18	0.44
d, Delay for Lane Group [s/veh]	64.79	136.55	163.36	156.75	32.40	34.31	68.69	133.32	38.78	149.26	38.89	42.31
Lane Group LOS	E	F	F	F	C	C	E	F	D	F	D	D

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Critical Lane Group	No	No	Yes	Yes	NO	NO	NO	Yes	No	Yes	NO	NO
50th-Percentile Queue Length [veh/ln]	4.30	35.46	40.54	14.78	11.73	12.42	8.34	27.98	4.63	11.35	2.10	4.87
50th-Percentile Queue Length [ft/ln]	107.45	886.48	1013.62	369.61	293.19	310.48	208.43	699.60	115.80	283.84	52.61	121.64
95th-Percentile Queue Length [veh/ln]	7.70	50.78	58.41	22.90	17.34	18.20	13.07	40.47	8.16	17.96	3.79	8.48
95th-Percentile Queue Length [ft/ln]	192.45	1269.59	1460.16	572.58	433.60	454.96	326.81	1011.71	204.04	449.07	94.70	212.08

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	64.79	140.59	163.36	156.75	32.97	34.31	68.69	133.32	38.78	149.26	38.89	42.31
Movement LOS	E	F	F	F	C	C	E	F	D	F	D	D
Critical Movement	No	No	Yes	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	137.40			70.06			113.55			84.44		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	110.05											
Intersection LOS	F											
Intersection V/C	1.061											

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Option 2: OY 1 EB thru

Number	5											
Intersection	Laurel Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	1	9	16	58	7	34	23	2287	13	9	394	17
Total Analysis Volume [veh/h]	28	9	33	61	7	36	24	2425	27	18	449	18

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	522	524	1238	1238	650
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	10.97	11.56	453.26	449.32	22.97
95th-Percentile Queue Length [veh]	0.46	0.73	81.62	81.29	6.66
95th-Percentile Queue Length [ft]	11.53	18.31	2040.48	2032.29	166.51
Approach Delay [s/veh]	10.97	11.56	451.29		22.97
Approach LOS	B	B	F		C
Intersection Delay [s/veh]	360.61				
Intersection LOS	F				

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**Option 2: OY 1 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	143	897	165	51	704	17	75	1555	1212	58	195	56
Total Analysis Volume [veh/h]	169	952	181	54	745	18	79	1660	1285	65	228	59

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	356	1133	817	1512	1512	358
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	21.70	925.26	610.76	1394.65	1276.89	76.25
95th-Percentile Queue Length [veh]	2.46	98.69	62.43	146.14	143.02	11.13
95th-Percentile Queue Length [ft]	61.56	2467.15	1560.68	3653.50	3575.62	278.30
Approach Delay [s/veh]	807.98		610.76	1335.77		76.25
Approach LOS	F		F	F		F
Intersection Delay [s/veh]	1022.24					
Intersection LOS	F					

Option 2: OY 1 Signalized, SB and WB left

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	784	154	1030	655	40	328
Total Analysis Volume [veh/h]	829	124	1140	698	51	279

**Intersection Settings**

Cycle Length [s]	150					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	131	0	0	131	19	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.85	0.85	0.85	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.54	1.91	0.39	0.03	0.18
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800
Arrival type	3	3	3	3	3
s, saturation flow rate [veh/h]	1760	598	1800	1714	1530
c, Capacity [veh/h]	1489	434	1523	172	153
X, volume / capacity	0.64	2.63	0.46	0.30	1.82
d, Delay for Lane Group [s/veh]	5.98	770.33	3.89	63.45	454.62
Lane Group LOS	A	F	A	E	F



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Critical Lane Group	No	Yes	No	NO	Yes
50th-Percentile Queue Length [veh/ln]	6.76	105.86	4.42	1.86	22.41
50th-Percentile Queue Length [ft/ln]	168.91	2646.60	110.54	46.59	560.16
95th-Percentile Queue Length [veh/ln]	11.02	187.82	7.87	3.35	35.87
95th-Percentile Queue Length [ft/ln]	275.48	4695.43	196.75	83.86	896.86

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	5.98	5.98	770.33	3.89	63.45	454.62
Movement LOS	A	A	F	A	E	F
Critical Movement	No	No	Yes	No	No	No
d_A, Approach Delay [s/veh]	5.98		479.26		394.17	
Approach LOS	A		F		F	
d_I, Intersection Delay [s/veh]	325.75					
Intersection LOS	F					
Intersection V/C	2.088					

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Option 2: OY 1 Add EB thru

Number	8											
Intersection	Maple Ave/Santa Ana Ave											
Control Type	Two-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	80	8	11	13	16	98	141	734	47	13	780	22
Total Analysis Volume [veh/h]	100	8	12	14	17	103	148	796	58	14	834	23

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Capacity Analysis**

Calculated Rank	4	3	2	4	3	2	2	1	1	2	1	1
v_c, Conflicting Flow Rate	1626	2006	427	1572	2024	429	857	0	0	854	0	0
v_c, Stage 1	1121	1121	427	874	874	429	857	0	0	854	0	0
v_c, Stage 2	505	885	0	698	1150	0	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	69	60	582	76	59	580	792	0	0	794	0	0
c_p,x, Stage 1 [veh/h]	223	284	1318	315	370	1319	2102	0	0	2100	0	0
c_p,x, Stage 2 [veh/h]	523	366	1091	402	275	1091	1636	0	0	1636	0	0
c_m,x, Movement Capacity [veh/h]	31	43	582	51	42	580	792	100000	100000	794	100000	100000
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	31	43	582	51	42	580	792	100000	100000	794	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	3.20	0.18	0.02	0.28	0.40	0.18	0.19	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	1330.85	1298.65	1221.90	143.39	157.24	78.38	10.59	0.00	0.00	9.61	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	A	A	A
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	13.84	13.84	13.84	5.82	5.82	5.82	0.68	0.34	0.00	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	346.08	346.08	346.08	145.50	145.50	145.50	17.09	8.54	0.00	1.35	1.35	1.35
d_A, Approach Delay [s/veh]	1317.81			95.18			1.56			0.15		
Approach LOS	F			F			A			A		
V/C_I, Worst Movement V/C Ratio	3.20											
d_I, Worst Movement Control Delay [s/veh]	1330.85											
d_I, Intersection Delay [s/veh]	81.14											
Intersection LOS	F											

**Option 2: OY 1 WB thru and Two Stage Gap**

Number	9					
Intersection	Maple Ave/Jurupa Ave					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	T		↑		↑↑	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Base Volume Input [veh/h]	23	8	13	1245	343	14
Total Analysis Volume [veh/h]	51	8	14	1374	392	28

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	100	0	0

**Capacity Analysis**

Calculated Rank	3	2	2	1	1	1
v_c, Conflicting Flow Rate	1121	210	420	0	0	0
v_c, Stage 1	406	210	420	0	0	0
v_c, Stage 2	715	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	203	802	1150	0	0	0
c_p,x, Stage 1 [veh/h]	647	1199	1855	0	0	0
c_p,x, Stage 2 [veh/h]	451	1091	1636	0	0	0
c_m,x, Movement Capacity [veh/h]	193	802	1150	100000	100000	100000
c_m,x, Stage 1 [veh/h]	647	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	428	0	0	0	0	0
c_T, Total Capacity [veh/h]	428	802	1150	100000	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.12	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	14.58	10.66	8.17	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
Critical Movement	Yes	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.03	11.03	0.92	0.92	0.00	0.00
d_A, Approach Delay [s/veh]	14.05		0.08		0.00	
Approach LOS	B		A		A	
V/C_I, Worst Movement V/C Ratio	0.12					
d_I, Worst Movement Control Delay [s/veh]	14.58					
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	B					

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Option 2: OY 1 EB thru

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			⇐⇐			⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	59	31	10	38	61	70	85	673	169	8	304	52
Total Analysis Volume [veh/h]	62	33	11	68	64	74	89	806	178	8	367	69

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	464	505	544	572	494	549
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	13.04	14.97	60.51	48.51	29.48	10.20
95th-Percentile Queue Length [veh]	0.87	1.97	13.73	12.15	6.56	0.43
95th-Percentile Queue Length [ft]	21.79	49.15	343.13	303.75	164.12	10.71
Approach Delay [s/veh]	13.04	14.97	54.51		26.49	
Approach LOS	B		B		D	
Intersection Delay [s/veh]	40.85					
Intersection LOS	E					

Option 2: OY 1 SB thru to SB thru-right, add NB thru

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	498	2952	0	0	1459	637	0	0	0	585	7	1013
Total Analysis Volume [veh/h]	559	3123	0	0	1544	503	0	0	0	636	7	800

**Intersection Settings**

Cycle Length [s]	150											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	45	90	0	0	45	0	0	0	0	0	60	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.27	0.57	0.27	0.27	0.27		0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.33	0.64	0.28	0.31	0.31		0.40	0.45
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3				3	3
s, saturation flow rate [veh/h]	1714	4903	3618	1681	1615		1787	1615
c, Capacity [veh/h]	468	2815	992	461	443		666	602
X, volume / capacity	1.19	1.11	1.04	1.12	1.14		1.08	1.20
d, Delay for Lane Group [s/veh]	160.94	87.06	93.32	132.19	140.01		106.72	151.92
Lane Group LOS	F	F	F	F	F		F	F

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Critical Lane Group	Yes	NO	NO	NO	Yes		NO	Yes
50th-Percentile Queue Length [veh/ln]	31.50	47.13	24.05	27.33	27.22		35.70	39.82
50th-Percentile Queue Length [ft/ln]	787.56	1178.18	601.37	683.37	680.46		892.55	995.61
95th-Percentile Queue Length [veh/ln]	45.16	63.60	32.87	38.42	38.63		48.18	56.55
95th-Percentile Queue Length [ft/ln]	1128.96	1590.09	821.85	960.42	965.86		1204.54	1413.78

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	160.94	87.06	0.00	0.00	97.84	140.01	0.00	0.00	0.00	106.72	106.72	147.49
Movement LOS	F	F			F	F				F	F	F
Critical Movement	Yes	No			No	No				No	No	No
d_A, Approach Delay [s/veh]	98.27				114.57		0.00				129.32	
Approach LOS	F				F		A				F	
d_I, Intersection Delay [s/veh]	109.17											
Intersection LOS	F											
Intersection V/C	1.084											

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**Option 2: OY 1 EB right turn**

Number	12											
Intersection	Cedar Ave/I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↔↑↑			↔↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	2436	524	489	1591	0	582	2	237	0	0	0
Total Analysis Volume [veh/h]	0	2616	443	515	1702	0	613	2	200	0	0	0

**Intersection Settings**

Cycle Length [s]	125											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	60	0	39	99	0	0	26	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.45	0.45	0.28	0.76	0.18	0.18	0.18	
(v / s)_i Volume / Saturation Flow Rate	0.51	0.27	0.30	0.47	0.18	0.18	0.13	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1715	1530	
c, Capacity [veh/h]	2318	723	480	2749	302	302	270	
X, volume / capacity	1.13	0.61	1.07	0.62	1.02	1.02	0.74	
d, Delay for Lane Group [s/veh]	98.60	30.10	106.98	7.87	93.81	93.76	53.08	
Lane Group LOS	F	C	F	A	F	F	D	

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Critical Lane Group	Yes	No	Yes	No	Yes	No	No	
50th-Percentile Queue Length [veh/ln]	36.53	10.71	23.01	9.16	12.98	12.98	6.24	
50th-Percentile Queue Length [ft/ln]	913.36	267.83	575.20	229.11	324.51	324.50	155.99	
95th-Percentile Queue Length [veh/ln]	50.75	16.08	32.26	14.13	19.06	19.06	10.34	
95th-Percentile Queue Length [ft/ln]	1268.67	402.03	806.50	353.23	476.62	476.58	258.40	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	98.60	30.10	106.98	7.87	0.00	93.79	93.76	53.08	0.00	0.00	0.00
Movement LOS		F	C	F	A		F	F	D			
Critical Movement		No	No	Yes	No		No	No	No			
d_A, Approach Delay [s/veh]	88.68			30.89			83.80			0.00		
Approach LOS	F			C			F			A		
d_I, Intersection Delay [s/veh]	66.99											
Intersection LOS	E											
Intersection V/C	0.985											



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**Option 2: OY 1 Split Phase**

Number	13											
Intersection	Cedar Ave/Orange St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	1	2673	2	39	1568	234	795	11	83	1	2	121
Total Analysis Volume [veh/h]	1	2904	1	41	1695	184	837	12	65	1	2	96

**Intersection Settings**

Cycle Length [s]	170											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	79	89	0	9	19	0	0	60	0	0	12	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.55	0.50	0.50	0.55	0.53	0.53	0.33	0.33	0.05
(v / s)_i Volume / Saturation Flow Rate	0.00	0.76	0.76	0.21	0.47	0.11	0.49	0.05	0.06
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	328	1900	1900	197	3618	1615	1714	1654	1622
c, Capacity [veh/h]	124	960	960	127	1914	854	563	543	76
X, volume / capacity	0.01	1.51	1.51	0.32	0.89	0.22	1.49	0.14	1.30
d, Delay for Lane Group [s/veh]	31.23	278.48	278.56	46.68	41.97	21.86	285.27	40.32	234.17
Lane Group LOS	C	F	F	D	D	C	F	D	F

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.02	102.80	102.81	1.00	32.63	4.16	59.85	2.34	6.62
50th-Percentile Queue Length [ft/ln]	0.48	2570.02	2570.25	24.97	815.69	104.04	1496.33	58.60	165.50
95th-Percentile Queue Length [veh/ln]	0.03	155.00	155.02	1.80	42.00	7.49	89.97	4.22	11.57
95th-Percentile Queue Length [ft/ln]	0.86	3875.06	3875.58	44.95	1049.89	187.27	2249.14	105.48	289.26

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	31.23	278.52	278.56	46.68	41.97	21.86	285.27	40.32	40.32	234.17	234.17	234.17
Movement LOS	C	F	F	D	D	C	F	D	D	F	F	F
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	278.44			40.14			264.64			234.17		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	197.17											
Intersection LOS	F											
Intersection V/C	1.325											

Version 2021 (SP 0-2)

Option 2: OY 1 2nd EB left

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	82	1800	66	575	966	151	396	571	124	27	204	478
Total Analysis Volume [veh/h]	86	1985	52	605	1061	119	417	601	98	28	215	377

Intersection Settings

Cycle Length [s]	150											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	61	0	41	89	0	18	39	0	9	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.38	0.38	0.25	0.57	0.57	0.09	0.24	0.24	0.02	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.54	0.54	0.35	0.31	0.32	0.13	0.18	0.06	0.02	0.11	0.23
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1883	1714	1900	1834	3329	3427	1530	1714	1900	1615
c, Capacity [veh/h]	103	723	717	423	1078	1041	311	833	372	39	328	279
X, volume / capacity	0.84	1.41	1.42	1.43	0.55	0.56	1.34	0.72	0.26	0.71	0.66	1.35
d, Delay for Lane Group [s/veh]	85.55	238.23	243.85	263.63	22.44	22.86	226.32	53.33	46.30	93.49	60.61	242.59
Lane Group LOS	F	F	F	F	C	C	F	D	D	F	E	F

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Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.74	65.33	65.86	40.33	13.68	13.72	12.82	10.58	3.04	1.30	7.90	24.61
50th-Percentile Queue Length [ft/ln]	93.41	1633.19	1646.59	1008.13	341.93	342.92	320.49	264.43	75.95	32.60	197.55	615.27
95th-Percentile Queue Length [veh/ln]	6.73	96.48	97.57	60.65	19.74	19.79	20.65	15.91	5.47	2.35	12.51	37.46
95th-Percentile Queue Length [ft/ln]	168.14	2411.95	2439.32	1516.36	493.56	494.76	516.26	397.77	136.71	58.68	312.81	936.58

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	85.55	240.97	243.85	263.63	22.62	22.86	226.32	53.33	46.30	93.49	60.61	242.59
Movement LOS	F	F	F	F	C	C	F	D	D	F	E	F
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	234.74			104.32			117.35			172.75		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	163.47											
Intersection LOS	F											
Intersection V/C	1.252											

Version 2021 (SP 0-2)

Option 2: OY 1 EB and WB left

Number	15											
Intersection	Cedar Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	139	1248	32	76	779	78	598	375	446	26	131	68
Total Analysis Volume [veh/h]	146	1381	25	80	853	71	653	395	352	27	138	54

Intersection Settings

Cycle Length [s]	110											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	41	0	9	36	0	0	60	0	0	60	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.09	0.34	0.34	0.05	0.29	0.29	0.51	0.51	0.51	0.51		
(v / s)_i Volume / Saturation Flow Rate	0.09	0.37	0.37	0.05	0.25	0.25	0.54	0.43	0.04	0.11		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1888	1714	1900	1849	1210	1754	725	1810		
c, Capacity [veh/h]	156	641	637	78	554	540	583	891	151	920		
X, volume / capacity	0.93	1.10	1.10	1.02	0.84	0.84	1.12	0.84	0.18	0.21		
d, Delay for Lane Group [s/veh]	70.55	102.32	103.29	105.37	51.20	51.55	108.95	29.88	45.01	15.00		
Lane Group LOS	E	F	F	F	D	D	F	C	D	B		

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Critical Lane Group	NO	NO	Yes	Yes	NO	NO	Yes	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	4.88	28.52	28.52	3.31	13.91	13.59	28.25	17.44	0.69	2.54
50th-Percentile Queue Length [ft/ln]	121.96	713.07	712.90	82.67	347.77	339.76	706.25	436.03	17.13	63.42
95th-Percentile Queue Length [veh/ln]	8.50	39.71	39.75	5.95	20.03	19.64	40.23	24.29	1.23	4.57
95th-Percentile Queue Length [ft/ln]	212.52	992.73	993.86	148.80	500.69	490.91	1005.67	607.26	30.84	114.15

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	70.55	102.79	103.29	105.37	51.36	51.55	108.95	29.88	29.88	45.01	15.00	15.00
Movement LOS	E	F	F	F	D	D	F	C	C	D	B	B
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	99.77			55.68			66.76			18.70		
Approach LOS	F			E			E			B		
d_I, Intersection Delay [s/veh]	73.84											
Intersection LOS	E											
Intersection V/C	0.958											

Version 2021 (SP 0-2)

Option 2: OY 1 EB left

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	282	1356	249	135	1241	47	39	329	201	125	81	76
Total Analysis Volume [veh/h]	322	1427	197	142	1306	61	108	354	197	132	89	60

Intersection Settings

Cycle Length [s]	70											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	16	34	0	10	28	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.17	0.43	0.43	0.09	0.34	0.34	0.31	0.31	0.31	0.31	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.19	0.43	0.45	0.08	0.36	0.36	0.08	0.19	0.12	0.35	0.04	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1822	1714	1900	1870	1329	1900	1615	634	1615	1615
c, Capacity [veh/h]	296	811	778	151	650	640	105	597	507	281	507	507
X, volume / capacity	1.09	1.00	1.04	0.94	1.06	1.06	1.03	0.59	0.39	0.79	0.12	0.12
d, Delay for Lane Group [s/veh]	80.60	51.90	64.32	54.08	74.31	76.18	84.24	21.26	19.31	41.37	17.27	17.27
Lane Group LOS	F	F	F	D	F	F	F	C	B	D	B	B

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	8.98	18.86	20.77	3.24	19.06	19.10	3.17	4.71	2.42	4.64	0.67
50th-Percentile Queue Length [ft/ln]	224.62	471.55	519.31	80.99	476.58	477.45	79.17	117.85	60.47	116.11	16.68
95th-Percentile Queue Length [veh/ln]	14.44	26.00	29.13	5.83	27.19	27.32	5.70	8.27	4.35	8.18	1.20
95th-Percentile Queue Length [ft/ln]	361.06	649.98	728.31	145.79	679.82	682.93	142.51	206.87	108.85	204.47	30.03

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	80.60	57.26	64.32	54.08	75.20	76.18	84.24	21.26	19.31	41.37	41.37	17.27
Movement LOS	F	E	E	D	F	E	F	C	B	D	D	B
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	61.83			73.25			31.00			36.22		
Approach LOS	E			E			C			D		
d_I, Intersection Delay [s/veh]	59.49											
Intersection LOS	E											
Intersection V/C	0.900											



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Option 2: OY 1 EB left

Number	17											
Intersection	Cedar Ave/11th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	549	1796	20	73	1316	239	168	74	96	18	45	15
Total Analysis Volume [veh/h]	578	1916	16	77	1436	188	177	78	76	19	47	12

Intersection Settings

Cycle Length [s]	115											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	42	79	0	10	47	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.33	0.70	0.70	0.05	0.43	0.43	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.34	0.51	0.51	0.04	0.43	0.44	0.09	0.12	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1825	1365	1712	1715
c, Capacity [veh/h]	566	1338	1334	91	811	779	176	277	277
X, volume / capacity	1.02	0.72	0.72	0.85	1.01	1.03	0.70	0.75	0.28
d, Delay for Lane Group [s/veh]	80.91	13.64	13.72	72.68	67.01	73.91	53.55	52.50	45.08
Lane Group LOS	F	B	B	E	F	F	D	D	D

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	22.30	14.17	14.23	2.68	29.53	29.86	3.63	6.16	2.05
50th-Percentile Queue Length [ft/ln]	557.47	354.36	355.66	66.98	738.34	746.49	90.82	153.94	51.17
95th-Percentile Queue Length [veh/ln]	30.48	20.35	20.41	4.82	38.74	39.79	6.54	10.23	3.68
95th-Percentile Queue Length [ft/ln]	762.01	508.72	510.30	120.56	968.56	994.72	163.48	255.68	92.10

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	80.91	13.68	13.72	72.68	69.97	73.91	53.44	52.50	52.50	45.08	45.08	45.08
Movement LOS	F	B	B	E	E	E	D	D	D	D	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	29.16			70.53			52.89			45.08		
Approach LOS	C			E			D			D		
d_I, Intersection Delay [s/veh]	46.36											
Intersection LOS	D											
Intersection V/C	0.900											

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Option 2: OY 1 EB left

Number	18											
Intersection	Cedar Ave/7th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	630	1853	14	52	1323	78	109	22	566	29	22	17
Total Analysis Volume [veh/h]	663	1972	11	55	1436	67	119	23	446	31	23	14

Intersection Settings

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	43	79	0	9	45	0	0	32	0	0	32	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.32	0.63	0.63	0.04	0.34	0.34	0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.39	0.52	0.52	0.03	0.40	0.40	0.09	0.29	0.08
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1896	1714	1900	1870	1393	1627	897
c, Capacity [veh/h]	557	1188	1185	71	649	639	303	410	253
X, volume / capacity	1.19	0.83	0.84	0.78	1.16	1.17	0.39	1.14	0.27
d, Delay for Lane Group [s/veh]	143.42	24.62	24.74	73.46	129.08	131.89	40.87	136.91	37.35
Lane Group LOS	F	C	C	E	F	F	D	F	D

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	32.08	22.20	22.27	1.98	34.96	34.91	3.11	22.66	1.66
50th-Percentile Queue Length [ft/ln]	801.90	555.01	556.66	49.41	873.93	872.79	77.66	566.51	41.49
95th-Percentile Queue Length [veh/ln]	46.12	29.93	30.00	3.56	49.27	49.37	5.59	32.84	2.99
95th-Percentile Queue Length [ft/ln]	1152.95	748.19	750.12	88.94	1231.67	1234.13	139.79	820.94	74.68

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	143.42	24.68	24.74	73.46	130.41	131.89	40.87	136.91	136.91	37.35	37.35	37.35
Movement LOS	F	C	C	E	F	F	D	F	F	D	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	54.43			128.46			117.47			37.35		
Approach LOS	D			F			F			D		
d_I, Intersection Delay [s/veh]	85.55											
Intersection LOS	F											
Intersection V/C	1.075											

Version 2021 (SP 0-2)

Option 2: OY 1 2nd SB left turn

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	68	1187	807	651	1113	58	40	50	23	401	158	806
Total Analysis Volume [veh/h]	72	1256	637	717	1183	45	42	53	18	422	166	648

Intersection Settings

Cycle Length [s]	135											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	44	0	29	63	0	0	19	0	0	43	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.35	0.35	0.19	0.49	0.49	0.05	0.05	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.35	0.39	0.20	0.33	0.03	0.02	0.04	0.32
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1810	3618	1615	3514	3618	1615	1810	1819	1834
c, Capacity [veh/h]	83	1280	571	652	1785	797	98	99	528
X, volume / capacity	0.87	0.98	1.11	1.10	0.66	0.06	0.43	0.72	1.11
d, Delay for Lane Group [s/veh]	86.42	64.28	116.93	105.85	27.70	17.96	64.69	72.10	122.27
Lane Group LOS	F	E	F	F	C	B	E	E	F

Version 2021 (SP 0-2)

Critical Lane Group	No	No	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	2.99	24.28	30.50	15.67	14.62	0.77	1.48	2.66	28.53
50th-Percentile Queue Length [ft/ln]	74.63	607.08	762.57	391.83	365.61	19.36	37.03	66.60	713.20
95th-Percentile Queue Length [veh/ln]	5.37	32.36	42.57	23.27	20.90	1.39	2.67	4.80	39.89
95th-Percentile Queue Length [ft/ln]	134.33	809.12	1064.14	581.70	522.40	34.86	66.65	119.88	997.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	86.42	64.28	116.93	105.85	27.70	17.96	64.69	72.10	72.10	122.27	122.27	0.00
Movement LOS	F	E	F	F	C	B	E	E	E	F	F	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	82.16			56.29			69.35			122.27		
Approach LOS	F			E			E			F		
d_I, Intersection Delay [s/veh]	76.05											
Intersection LOS	E											
Intersection V/C	0.958											

Version 2021 (SP 0-2)

Option 2: OY 1 WB left

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	80	1117	100	10	1283	4	7	46	329	368	69	52
Total Analysis Volume [veh/h]	84	1192	79	11	1382	3	7	48	260	387	73	41

Intersection Settings

Cycle Length [s]	150											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	92	0	9	90	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.05	0.61	0.61	0.01	0.57	0.57	0.15	0.15	0.13	0.13		
(v / s)_i Volume / Saturation Flow Rate	0.05	0.63	0.05	0.01	0.73	0.00	0.03	0.16	0.11	0.06		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	3514	1787		
c, Capacity [veh/h]	86	1155	982	23	1090	926	278	237	441	224		
X, volume / capacity	0.98	1.03	0.08	0.47	1.27	0.00	0.20	1.09	0.88	0.51		
d, Delay for Lane Group [s/veh]	112.26	64.51	12.29	87.31	160.09	13.67	56.53	137.74	70.16	63.03		
Lane Group LOS	F	F	B	F	F	B	E	F	E	E		

Version 2021 (SP 0-2)

Critical Lane Group	Yes	NO	NO	NO	Yes	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	4.22	50.88	1.16	0.51	76.81	0.05	1.88	13.95	7.65	4.20
50th-Percentile Queue Length [ft/ln]	105.38	1272.12	29.04	12.84	1920.25	1.16	46.88	348.82	191.14	104.90
95th-Percentile Queue Length [veh/ln]	7.58	64.40	2.09	0.92	109.12	0.08	3.38	20.94	12.18	7.55
95th-Percentile Queue Length [ft/ln]	189.56	1610.07	52.27	23.10	2728.03	2.09	84.39	523.62	304.51	188.82




**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	112.26	64.51	12.29	87.31	160.09	13.67	56.53	56.53	137.74	70.16	63.03	63.03
Movement LOS	F	F	B	F	F	B	E	E	F	E	E	E
Critical Movement	No	No	No	No	Yes	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	64.43			159.20			123.56			68.54		
Approach LOS	E			F			F			E		
d_I, Intersection Delay [s/veh]	107.32											
Intersection LOS	F											
Intersection V/C	1.045											



Version 2021 (SP 0-2)

Option 2: OY 1 2nd SB left

Number	25											
Intersection	Market St/SR-60 EB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Base Volume Input [veh/h]	0	976	163	512	1954	0	120	0	1165	0	0	0
Total Analysis Volume [veh/h]	0	1027	128	571	2057	0	126	0	920	0	0	0

Intersection Settings

Cycle Length [s]	80											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	28	0	22	50	0	30	0	0	0	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.33	0.19	0.58	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.16	0.57	0.07	0.32	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	
Arrival type	3	3	3	3	3	
s, saturation flow rate [veh/h]	3618	3514	3618	1810	2859	
c, Capacity [veh/h]	1207	675	2082	588	928	
X, volume / capacity	0.85	0.85	0.99	0.21	0.99	
d, Delay for Lane Group [s/veh]	32.51	34.28	33.83	19.83	38.79	
Lane Group LOS	C	C	C	B	D	

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Critical Lane Group	NO	NO	Yes	NO	Yes	
50th-Percentile Queue Length [veh/ln]	9.84	5.43	20.59	1.67	9.76	
50th-Percentile Queue Length [ft/ln]	245.96	135.84	514.81	41.82	243.94	
95th-Percentile Queue Length [veh/ln]	14.98	9.26	28.03	3.01	14.88	
95th-Percentile Queue Length [ft/ln]	374.56	231.42	700.86	75.28	372.01	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	32.51	0.00	34.28	33.83	0.00	19.83	0.00	38.79	0.00	0.00	0.00
Movement LOS		C		C	C		B		D			
Critical Movement		No	No	No	No		No		Yes			
d_A, Approach Delay [s/veh]	32.51			33.93			36.51			0.00		
Approach LOS	C			C			D			A		
d_I, Intersection Delay [s/veh]	34.19											
Intersection LOS	C											
Intersection V/C	0.890											

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Option 3: OY 2 3rd EB left turn

Number	1											
Intersection	Sierra Ave/I-10 Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	800	2874	1153	592	1354	882	976	0	558	523	0	605
Total Analysis Volume [veh/h]	895	3046	911	623	1437	696	1027	0	462	551	0	478

Intersection Settings

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Unsigna	Protecte	Permiss	Unsigna	Permiss	Permiss	Unsigna	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	3	0	0	7	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	0	5	0	0
Maximum Green [s]	30	30	0	30	30	0	30	0	0	30	0	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0
Split [s]	50	57	0	25	32	0	48	0	0	48	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	5	0	0
Pedestrian Clearance [s]	0	23	0	0	23	0	39	0	0	35	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Minimum Recall	No	No		No	No		No			No		
Maximum Recall	No	No		No	No		No			No		
Pedestrian Recall	No	No		No	No		No			No		
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.28	0.52	0.16	0.40	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.25	0.59	0.18	0.28	0.19	0.16
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800
Arrival type	3		3		3	3
s, saturation flow rate [veh/h]	3514	5176	3514	5176	5271	3514
c, Capacity [veh/h]	980	2689	571	2086	1189	793
X, volume / capacity	0.91	1.13	1.09	0.69	0.86	0.69
d, Delay for Lane Group [s/veh]	49.08	96.17	102.68	33.90	50.33	47.26
Lane Group LOS	D	F	F	C	D	D





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Critical Lane Group	NO	Yes	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	14.12	42.29	13.07	12.61	10.19	7.78
50th-Percentile Queue Length [ft/ln]	353.11	1057.36	326.68	315.16	254.73	194.56
95th-Percentile Queue Length [veh/ln]	20.29	58.33	19.81	18.43	15.42	12.36
95th-Percentile Queue Length [ft/ln]	507.20	1458.22	495.23	460.73	385.60	308.94

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	49.08	96.17	0.00	102.68	33.90	0.00	50.33	0.00	0.00	47.26	0.00	0.00
Movement LOS	D	F		F	C		D			D		
Critical Movement	No	No	No	Yes	No	No	No		No	No		No
d_A, Approach Delay [s/veh]	85.48			54.70			50.33			47.26		
Approach LOS	F			D			D			D		
d_I, Intersection Delay [s/veh]	69.57											
Intersection LOS	E											
Intersection V/C	0.961											

**Option 3: OY 2 EB right to EB thru-right**

Number	2											
Intersection	Sierra Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	166	3151	386	1557	1280	145	1200	1714	129	185	307	1746
Total Analysis Volume [veh/h]	175	3392	304	1639	1388	115	1263	1804	102	195	323	1378

**Intersection Settings**

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	5
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	30
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	3.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0
Split [s]	12	40	0	28	56	0	22	53	0	9	40	40
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	31	0	0	27	0	0	31	0	0	31	31
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Minimum Recall	No	No		No	No		No	No		No	No	No
Maximum Recall	No	No		No	No		No	No		No	No	No
Pedestrian Recall	No	No		No	No		No	No		No	No	No
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.06	0.28	0.28	0.18	0.41	0.41	0.14	0.37	0.37	0.04	0.27	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.52	0.55	0.47	0.27	0.28	0.36	0.35	0.35	0.06	0.09	0.48
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1802	3514	3618	1828	3514	3618	1849	3514	3618	2859
c, Capacity [veh/h]	217	1464	510	649	1468	742	487	1340	685	136	979	1390
X, volume / capacity	0.81	1.85	1.94	2.53	0.67	0.70	2.59	0.93	0.96	1.43	0.33	0.99
d, Delay for Lane Group [s/veh]	67.06	430.38	478.82	743.60	34.01	37.41	776.12	42.94	62.97	264.57	38.16	51.83
Lane Group LOS	E	F	F	F	C	D	F	D	E	F	D	D

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Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.98	67.09	76.96	72.64	12.79	14.20	56.51	18.94	23.86	6.03	4.02	23.22
50th-Percentile Queue Length [ft/ln]	74.45	1677.25	1923.91	1816.06	319.64	355.11	1412.82	473.42	596.44	150.64	100.50	580.39
95th-Percentile Queue Length [veh/ln]	5.36	104.90	120.42	113.40	18.65	20.39	87.91	26.07	31.87	10.85	7.24	31.12
95th-Percentile Queue Length [ft/ln]	134.00	2622.40	3010.46	2834.91	466.24	509.64	2197.66	651.84	796.70	271.15	180.90	777.94

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	67.06	440.20	478.82	743.60	35.00	37.41	776.12	49.09	62.97	264.57	38.16	51.83
Movement LOS	E	F	F	F	C	D	F	D	E	F	D	D
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	426.36			404.73			339.29			71.38		
Approach LOS	F			F			F			E		
d_I, Intersection Delay [s/veh]	342.16											
Intersection LOS	F											
Intersection V/C	1.677											

**Option 3: OY 2 NB right to NB thru-right**

Number	4											
Intersection	Sierra Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	237	2460	480	534	1242	97	218	1123	221	218	156	169
Total Analysis Volume [veh/h]	249	2589	379	603	1307	77	229	1182	175	229	164	189

**Intersection Settings**

Cycle Length [s]	130											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	50	0	22	57	0	22	40	0	18	36	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	31	0	0	27	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.08	0.35	0.35	0.14	0.41	0.41	0.14	0.28	0.28	0.11	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.07	0.42	0.44	0.17	0.25	0.25	0.13	0.33	0.11	0.13	0.05	0.12
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	3514	5176	1748	3514	3618	1846	1810	3618	1615	1810	3618	1615
c, Capacity [veh/h]	298	1836	620	487	1478	754	251	998	446	195	887	396
X, volume / capacity	0.84	1.20	1.24	1.24	0.62	0.62	0.91	1.18	0.39	1.17	0.18	0.48
d, Delay for Lane Group [s/veh]	64.79	136.55	163.36	167.51	32.40	34.31	68.69	133.32	38.78	149.26	38.89	42.83
Lane Group LOS	E	F	F	F	C	C	E	F	D	F	D	D

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Critical Lane Group	No	No	Yes	Yes	NO	No	NO	Yes	No	Yes	NO	No
50th-Percentile Queue Length [veh/ln]	4.30	35.46	40.54	15.51	11.73	12.42	8.34	27.98	4.63	11.35	2.10	5.31
50th-Percentile Queue Length [ft/ln]	107.45	886.48	1013.62	387.78	293.17	310.52	208.43	699.60	115.80	283.84	52.61	132.79
95th-Percentile Queue Length [veh/ln]	7.70	50.78	58.41	24.04	17.34	18.20	13.07	40.47	8.16	17.96	3.79	9.09
95th-Percentile Queue Length [ft/ln]	192.45	1269.59	1460.16	601.09	433.57	455.02	326.81	1011.71	204.04	449.07	94.70	227.29

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	64.79	140.59	163.36	167.51	32.97	34.31	68.69	133.32	38.78	149.26	38.89	42.83
Movement LOS	E	F	F	F	C	C	E	F	D	F	D	D
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	137.40			73.85			113.55			83.60		
Approach LOS	F			E			F			F		
d_I, Intersection Delay [s/veh]	110.89											
Intersection LOS	F											
Intersection V/C	1.065											



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**Option 3: OY 2 EB thru**

Number	5											
Intersection	Laurel Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+ +			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	1	9	16	58	7	34	23	2287	13	9	394	17
Total Analysis Volume [veh/h]	39	9	38	61	7	36	24	2433	35	21	461	18

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	514	514	1246	1246	639
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	11.41	11.78	479.64	474.99	25.88
95th-Percentile Queue Length [veh]	0.60	0.75	84.26	83.89	7.53
95th-Percentile Queue Length [ft]	14.91	18.76	2106.52	2097.29	188.32
Approach Delay [s/veh]	11.41	11.78	477.32		25.88
Approach LOS	B	B	F		D
Intersection Delay [s/veh]	378.57				
Intersection LOS	F				

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**Option 3: OY 2 Added Lanes**

Number	6											
Intersection	Locust Ave/Santa Ana Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	143	897	165	51	704	17	75	1555	1212	58	195	56
Total Analysis Volume [veh/h]	177	955	184	54	747	18	79	1669	1291	67	238	59

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	354	1139	819	1520	1520	364
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	22.59	936.19	616.99	1408.68	1290.49	85.03
95th-Percentile Queue Length [veh]	2.67	99.55	62.82	147.20	144.10	12.08
95th-Percentile Queue Length [ft]	66.83	2488.80	1570.43	3679.89	3602.52	302.10
Approach Delay [s/veh]	813.31		616.99	1349.58		85.03
Approach LOS	F		F	F		F
Intersection Delay [s/veh]	1030.69					
Intersection LOS	F					

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**Option 3: OY 2 Signalized, SB and WB left**

Number	7					
Intersection	Locust Ave/Jurupa Ave					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	784	154	1030	655	40	328
Total Analysis Volume [veh/h]	832	126	1154	700	53	286

**Intersection Settings**

Cycle Length [s]	150					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fixed time					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	6	0	0	2	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	131	0	0	131	19	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

**Lane Group Calculations**

g / C, Green / Cycle	0.85	0.85	0.85	0.10	0.10
(v / s)_i Volume / Saturation Flow Rate	0.54	1.94	0.39	0.03	0.19
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800
Arrival type	3	3	3	3	3
s, saturation flow rate [veh/h]	1759	595	1800	1714	1530
c, Capacity [veh/h]	1489	435	1524	171	153
X, volume / capacity	0.64	2.65	0.46	0.31	1.87
d, Delay for Lane Group [s/veh]	6.02	782.08	3.88	67.32	482.52
Lane Group LOS	A	F	A	E	F

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Critical Lane Group	No	Yes	No	NO	Yes
50th-Percentile Queue Length [veh/ln]	6.83	107.54	4.44	2.11	23.52
50th-Percentile Queue Length [ft/ln]	170.73	2688.58	110.94	52.84	588.08
95th-Percentile Queue Length [veh/ln]	11.12	190.81	7.89	3.80	37.60
95th-Percentile Queue Length [ft/ln]	277.88	4770.14	197.31	95.11	940.11

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	6.02	6.02	782.08	3.88	67.32	482.52
Movement LOS	A	A	F	A	E	F
Critical Movement	No	No	Yes	No	No	No
d_A, Approach Delay [s/veh]	6.02		488.26		417.61	
Approach LOS	A		F		F	
d_I, Intersection Delay [s/veh]	334.05					
Intersection LOS	F					
Intersection V/C	2.125					

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**Option 3: OY 2 Add EB thru**

Number	8											
Intersection	Maple Ave/Santa Ana Ave											
Control Type	Two-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	80	8	11	13	16	98	141	734	47	13	780	22
Total Analysis Volume [veh/h]	105	8	12	14	17	103	148	804	61	14	839	23

**Intersection Settings**

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

**Capacity Analysis**

Calculated Rank	4	3	2	4	3	2	2	1	1	2	1	1
v_c, Conflicting Flow Rate	1638	2021	433	1581	2040	431	862	0	0	865	0	0
v_c, Stage 1	1131	1131	433	879	879	431	862	0	0	865	0	0
v_c, Stage 2	508	890	0	702	1161	0	0	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	68	59	577	75	57	578	789	0	0	787	0	0
c_p,x, Stage 1 [veh/h]	220	281	1321	313	368	1321	2105	0	0	2107	0	0
c_p,x, Stage 2 [veh/h]	521	364	1091	400	272	1091	1636	0	0	1636	0	0
c_m,x, Movement Capacity [veh/h]	30	42	577	49	41	578	789	100000	100000	787	100000	100000
c_m,x, Stage 1 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
c_T, Total Capacity [veh/h]	30	42	577	49	41	578	789	100000	100000	787	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	3.48	0.19	0.02	0.28	0.41	0.18	0.19	0.01	0.00	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	1467.84	1433.44	1354.65	149.69	164.26	83.09	10.62	0.00	0.00	9.66	0.00	0.00
Movement LOS	F	F	F	F	F	F	B	A	A	A	A	A
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	14.60	14.60	14.60	5.98	5.98	5.98	0.69	0.34	0.00	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	365.09	365.09	365.09	149.60	149.60	149.60	17.18	8.59	0.00	1.36	1.36	1.36
d_A, Approach Delay [s/veh]	1454.77			100.35			1.55			0.15		
Approach LOS	F			F			A			A		
V/C_I, Worst Movement V/C Ratio	3.48											
d_I, Worst Movement Control Delay [s/veh]	1467.84											
d_I, Intersection Delay [s/veh]	91.71											
Intersection LOS	F											

**Option 3: OY 2 WB thru and Two Stage Gap**

Number	9					
Intersection	Maple Ave/Jurupa Ave					
Control Type	Two-way stop					
Analysis Method	HCM 6th Edition					
Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	T		↑		↑↑	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Base Volume Input [veh/h]	23	8	13	1245	343	14
Total Analysis Volume [veh/h]	59	8	14	1389	404	34

**Intersection Settings**

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	100	0	0

**Capacity Analysis**

Calculated Rank	3	2	2	1	1	1
v_c, Conflicting Flow Rate	1144	219	438	0	0	0
v_c, Stage 1	421	219	438	0	0	0
v_c, Stage 2	723	0	0	0	0	0
c_p,x, Potential Capacity [veh/h]	197	791	1133	0	0	0
c_p,x, Stage 1 [veh/h]	636	1204	1865	0	0	0
c_p,x, Stage 2 [veh/h]	447	1091	1636	0	0	0
c_m,x, Movement Capacity [veh/h]	186	791	1133	100000	100000	100000
c_m,x, Stage 1 [veh/h]	636	0	0	0	0	0
c_m,x, Stage 2 [veh/h]	423	0	0	0	0	0
c_T, Total Capacity [veh/h]	423	791	1133	100000	100000	100000

**Movement, Approach, & Intersection Results**

V/C, Movement V/C Ratio	0.14	0.01	0.01	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	14.92	10.96	8.22	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
Critical Movement	Yes	No	No	No	No	No
95th-Percentile Queue Length [veh/ln]	0.52	0.52	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	13.06	13.06	0.94	0.94	0.00	0.00
d_A, Approach Delay [s/veh]	14.45		0.08		0.00	
Approach LOS	B		A		A	
V/C_I, Worst Movement V/C Ratio	0.14					
d_I, Worst Movement Control Delay [s/veh]	14.92					
d_I, Intersection Delay [s/veh]	0.57					
Intersection LOS	B					

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**Option 3: OY 2 2nd EB thru**

Number	10											
Intersection	Linden Ave/Jurupa Ave											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			⇄			⇄		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	59	31	10	38	61	70	85	673	169	8	304	52
Total Analysis Volume [veh/h]	62	33	11	78	64	74	89	833	178	8	386	76

**Intersection Settings**

**Lanes**

Capacity per Entry Lane [veh/h]	465	508	550	562	496	549
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**Movement, Approach, & Intersection Results**

Average Lane Delay [s/veh]	13.01	15.26	71.03	57.27	32.54	10.30
95th-Percentile Queue Length [veh]	0.87	2.10	15.23	13.58	7.36	0.48
95th-Percentile Queue Length [ft]	21.72	52.60	380.84	339.60	183.93	11.94
Approach Delay [s/veh]	13.01	15.26	64.15		28.95	
Approach LOS	B		C		D	
Intersection Delay [s/veh]	46.96					
Intersection LOS	E					

Option 3: OY 2 SB thru to SB thru-right add NB thru

Number	11											
Intersection	Cedar Ave/I-10 WB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	498	2952	0	0	1459	637	0	0	0	585	7	1013
Total Analysis Volume [veh/h]	568	3127	0	0	1547	503	0	0	0	644	7	800

**Intersection Settings**

Cycle Length [s]	125											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	0	2	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	30	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	38	75	0	0	37	0	0	0	0	0	50	0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	7	0	0	0	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No			No						No	
Maximum Recall	No	No			No						No	
Pedestrian Recall	No	No			No						No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.27	0.57	0.26	0.26	0.26		0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.33	0.64	0.29	0.31	0.31		0.41	0.45
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800		1800	1800
Arrival type	3		3				3	3
s, saturation flow rate [veh/h]	1714	4903	3618	1682	1615		1788	1615
c, Capacity [veh/h]	466	2789	958	445	428		656	593
X, volume / capacity	1.22	1.12	1.08	1.16	1.18		1.11	1.22
d, Delay for Lane Group [s/veh]	161.68	86.87	97.99	139.65	147.30		107.03	154.69
Lane Group LOS	F	F	F	F	F		F	F



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Critical Lane Group	Yes	NO	NO	NO	Yes		NO	Yes
50th-Percentile Queue Length [veh/ln]	29.40	41.56	21.68	25.30	25.21		32.09	36.83
50th-Percentile Queue Length [ft/ln]	734.96	1039.08	541.94	632.61	630.29		802.22	920.74
95th-Percentile Queue Length [veh/ln]	42.86	57.15	30.66	36.55	36.71		44.33	53.23
95th-Percentile Queue Length [ft/ln]	1071.39	1428.76	766.46	913.64	917.78		1108.34	1330.81

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	161.68	86.87	0.00	0.00	102.85	147.30	0.00	0.00	0.00	107.03	107.03	150.25
Movement LOS	F	F			F	F				F	F	F
Critical Movement	Yes	No			No	No				No	No	No
d_A, Approach Delay [s/veh]	98.37			120.57			0.00			130.86		
Approach LOS	F			F			A			F		
d_I, Intersection Delay [s/veh]	111.25											
Intersection LOS	F											
Intersection V/C	1.092											

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**Option 3: OY 2 EB right turn**

Number	12											
Intersection	Cedar Ave/I-10 EB Ramps											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↑↑↑			↔↑↑			↔↑↑					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	2436	524	489	1591	0	582	2	237	0	0	0
Total Analysis Volume [veh/h]	0	2628	453	515	1714	0	613	2	205	0	0	0

**Intersection Settings**

Cycle Length [s]	110											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	0	8	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	53	0	35	88	0	0	22	0	0	0	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	10	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No			No				
Maximum Recall		No		No	No			No				
Pedestrian Recall		No		No	No			No				
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.45	0.45	0.28	0.76	0.16	0.16	0.16	
(v / s)_i Volume / Saturation Flow Rate	0.51	0.28	0.30	0.47	0.18	0.18	0.13	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	5176	1615	1714	3618	1714	1715	1530	
c, Capacity [veh/h]	2304	719	483	2762	281	281	251	
X, volume / capacity	1.14	0.63	1.07	0.62	1.09	1.09	0.82	
d, Delay for Lane Group [s/veh]	99.58	27.69	99.12	6.91	108.60	108.54	50.84	
Lane Group LOS	F	C	F	A	F	F	D	

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Critical Lane Group	Yes	No	Yes	NO	Yes	NO	No	
50th-Percentile Queue Length [veh/ln]	34.20	9.69	20.82	7.48	12.50	12.50	5.81	
50th-Percentile Queue Length [ft/ln]	855.07	242.13	520.61	186.92	312.55	312.52	145.36	
95th-Percentile Queue Length [veh/ln]	48.13	14.79	29.45	11.96	19.10	19.10	9.77	
95th-Percentile Queue Length [ft/ln]	1203.28	369.72	736.32	299.03	477.53	477.46	244.23	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	99.58	27.69	99.12	6.91	0.00	108.57	108.54	50.84	0.00	0.00	0.00
Movement LOS		F	C	F	A		F	F	D			
Critical Movement		No	No	No	No		Yes	No	No			
d_A, Approach Delay [s/veh]	89.01			28.22			94.14			0.00		
Approach LOS	F			C			F			A		
d_I, Intersection Delay [s/veh]	67.59											
Intersection LOS	E											
Intersection V/C	0.988											

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**Option 3: OY 2 Split Phase**

Number	13											
Intersection	Cedar Ave/Orange St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	1	2673	2	39	1568	234	795	11	83	1	2	121
Total Analysis Volume [veh/h]	1	2929	1	41	1714	184	837	12	65	1	2	96

**Intersection Settings**

Cycle Length [s]	145											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	41	75	0	9	43	0	0	51	0	0	10	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	10	0	0	17	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.55	0.50	0.50	0.55	0.52	0.52	0.32	0.32	0.04		
(v / s)_i Volume / Saturation Flow Rate	0.00	0.77	0.77	0.20	0.47	0.11	0.49	0.05	0.06		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3	
s, saturation flow rate [veh/h]	328	1900	1900	209	3618	1615	1714	1654	1622		
c, Capacity [veh/h]	132	945	944	146	1894	846	554	535	67		
X, volume / capacity	0.01	1.55	1.55	0.28	0.90	0.22	1.51	0.14	1.48		
d, Delay for Lane Group [s/veh]	27.54	289.67	289.76	38.54	38.93	19.16	287.95	34.95	300.00		
Lane Group LOS	C	F	F	D	D	B	F	C	F		

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Critical Lane Group	No	NO	Yes	Yes	NO	NO	Yes	NO	Yes
50th-Percentile Queue Length [veh/ln]	0.02	99.09	99.10	0.83	28.60	3.53	56.72	1.99	6.80
50th-Percentile Queue Length [ft/ln]	0.40	2477.37	2477.62	20.74	714.89	88.20	1418.00	49.63	169.96
95th-Percentile Queue Length [veh/ln]	0.03	150.91	150.93	1.49	37.37	6.35	85.97	3.57	12.06
95th-Percentile Queue Length [ft/ln]	0.72	3772.82	3773.34	37.32	934.13	158.75	2149.14	89.33	301.48

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	27.54	289.72	289.76	38.54	38.93	19.16	287.95	34.95	34.95	300.00	300.00	300.00
Movement LOS	C	F	F	D	D	B	F	C	C	F	F	F
Critical Movement	No	No	No	No	No	No	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	289.63			37.04			266.64			300.00		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	202.98											
Intersection LOS	F											
Intersection V/C	1.332											

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Option 3: OY 2 2nd EB left

Number	14											
Intersection	Cedar Ave/Slover Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	82	1800	66	575	966	151	396	571	124	27	204	478
Total Analysis Volume [veh/h]	86	2011	52	605	1080	119	417	601	98	28	215	377

Intersection Settings

Cycle Length [s]	150											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	5	0	5	5	0	5	5	0	5	5	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	61	0	41	89	0	18	39	0	9	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	24	0	0	17	0	0	21	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.06	0.38	0.38	0.25	0.57	0.57	0.09	0.24	0.24	0.02	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.05	0.54	0.55	0.35	0.32	0.33	0.13	0.18	0.06	0.02	0.11	0.23
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1883	1714	1900	1835	3329	3427	1530	1714	1900	1615
c, Capacity [veh/h]	103	723	717	423	1078	1041	311	833	372	39	328	279
X, volume / capacity	0.84	1.43	1.44	1.43	0.56	0.57	1.34	0.72	0.26	0.71	0.66	1.35
d, Delay for Lane Group [s/veh]	85.55	246.10	251.73	263.63	22.65	23.10	226.32	53.33	46.30	93.49	60.61	242.59
Lane Group LOS	F	F	F	F	C	C	F	D	D	F	E	F

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Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.74	66.91	67.44	40.33	13.99	14.06	12.82	10.58	3.04	1.30	7.90	24.61
50th-Percentile Queue Length [ft/ln]	93.41	1672.70	1685.97	1008.13	349.84	351.55	320.49	264.43	75.95	32.60	197.55	615.27
95th-Percentile Queue Length [veh/ln]	6.73	99.16	100.25	60.65	20.13	20.21	20.65	15.91	5.47	2.35	12.51	37.46
95th-Percentile Queue Length [ft/ln]	168.14	2479.08	2506.27	1516.36	503.21	505.30	516.26	397.77	136.71	58.68	312.81	936.58

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	85.55	248.84	251.73	263.63	22.85	23.10	226.32	53.33	46.30	93.49	60.61	242.59
Movement LOS	F	F	F	F	C	C	F	D	D	F	E	F
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	242.37			103.61			117.35			172.75		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	166.26											
Intersection LOS	F											
Intersection V/C	1.259											

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**Option 3: OY 2 EB and WB left**

Number	15											
Intersection	Cedar Ave/Santa Ana Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	139	1248	32	76	779	78	598	375	446	26	131	68
Total Analysis Volume [veh/h]	146	1398	25	80	865	75	661	395	352	27	138	54

**Intersection Settings**

Cycle Length [s]	110											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	14	41	0	9	36	0	0	60	0	0	60	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.09	0.34	0.34	0.05	0.29	0.29	0.51	0.51	0.51	0.51		
(v / s)_i Volume / Saturation Flow Rate	0.09	0.38	0.38	0.05	0.25	0.25	0.55	0.43	0.04	0.11		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1888	1714	1900	1847	1210	1754	725	1810		
c, Capacity [veh/h]	156	641	637	78	554	539	583	891	151	920		
X, volume / capacity	0.93	1.11	1.12	1.02	0.86	0.86	1.13	0.84	0.18	0.21		
d, Delay for Lane Group [s/veh]	70.55	107.09	108.13	105.37	52.71	53.10	113.99	29.88	45.00	15.00		
Lane Group LOS	E	F	F	F	D	D	F	C	D	B		



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Critical Lane Group	NO	NO	Yes	Yes	NO	NO	Yes	NO	NO	NO
50th-Percentile Queue Length [veh/ln]	4.88	29.37	29.37	3.31	14.39	14.05	29.07	17.44	0.69	2.54
50th-Percentile Queue Length [ft/ln]	121.96	734.26	734.33	82.67	359.69	351.16	726.75	436.02	17.13	63.42
95th-Percentile Queue Length [veh/ln]	8.50	41.05	41.12	5.95	20.61	20.19	41.60	24.29	1.23	4.57
95th-Percentile Queue Length [ft/ln]	212.52	1026.37	1027.88	148.80	515.21	504.82	1039.98	607.25	30.83	114.15

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	70.55	107.60	108.13	105.37	52.89	53.10	113.99	29.88	29.88	45.00	15.00	15.00
Movement LOS	E	F	F	F	D	D	F	C	C	D	B	B
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	104.16			57.02			69.36			18.70		
Approach LOS	F			E			E			B		
d_I, Intersection Delay [s/veh]	76.70											
Intersection LOS	E											
Intersection V/C	0.969											

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**Option 3: OY 2 EB left**

Number	16											
Intersection	Cedar Ave/Jurupa Ave											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	282	1356	249	135	1241	47	39	329	201	125	81	76
Total Analysis Volume [veh/h]	333	1427	197	142	1306	71	125	357	209	132	92	60

**Intersection Settings**

Cycle Length [s]	125											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	27	59	0	14	46	0	0	52	0	0	52	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.18	0.44	0.44	0.08	0.34	0.34	0.38	0.38	0.38	0.38	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.19	0.43	0.45	0.08	0.36	0.37	0.09	0.19	0.13	0.28	0.04	0.04
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1714	1900	1822	1714	1900	1866	1325	1900	1615	792	1615	1615
c, Capacity [veh/h]	315	838	803	137	640	629	123	728	619	349	619	619
X, volume / capacity	1.06	0.97	1.01	1.04	1.08	1.09	1.02	0.49	0.34	0.64	0.10	0.10
d, Delay for Lane Group [s/veh]	106.45	58.60	69.39	102.64	101.34	103.75	103.92	29.80	27.64	47.16	24.77	24.77
Lane Group LOS	F	E	F	F	F	F	F	C	C	D	C	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	NO	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	14.70	29.16	31.46	6.05	30.11	29.99	5.36	8.25	4.50	6.87	1.17
50th-Percentile Queue Length [ft/ln]	367.41	728.91	786.46	151.31	752.67	749.69	134.12	206.13	112.53	171.85	29.14
95th-Percentile Queue Length [veh/ln]	21.58	38.01	41.00	10.21	41.26	41.26	9.27	12.95	7.98	11.17	2.10
95th-Percentile Queue Length [ft/ln]	539.55	950.30	1025.09	255.20	1031.50	1031.53	231.72	323.86	199.52	279.35	52.46

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	106.45	63.25	69.39	102.64	102.47	103.75	103.92	29.80	27.64	47.16	47.16	24.77
Movement LOS	F	E	E	F	F	F	F	C	C	D	D	C
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	71.22			102.55			42.56			42.43		
Approach LOS	E			F			D			D		
d_I, Intersection Delay [s/veh]	75.62											
Intersection LOS	E											
Intersection V/C	0.844											

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**Option 3: OY 2 EB left**

Number	17											
Intersection	Cedar Ave/11th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	549	1796	20	73	1316	239	168	74	96	18	45	15
Total Analysis Volume [veh/h]	578	1926	16	77	1453	188	177	78	76	19	47	12

**Intersection Settings**

Cycle Length [s]	120											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	44	83	0	11	50	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.33	0.71	0.71	0.06	0.43	0.43	0.14	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.34	0.51	0.51	0.04	0.44	0.45	0.09	0.12	0.05
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1894	1714	1900	1826	1365	1711	1708
c, Capacity [veh/h]	570	1341	1337	97	816	784	173	273	272
X, volume / capacity	1.01	0.72	0.73	0.79	1.01	1.04	0.71	0.76	0.29
d, Delay for Lane Group [s/veh]	79.92	14.05	14.13	69.16	69.07	76.36	56.28	54.98	47.15
Lane Group LOS	F	B	B	E	F	F	E	D	D

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	22.86	15.05	15.10	2.66	31.03	31.40	3.83	6.46	2.15
50th-Percentile Queue Length [ft/ln]	571.47	376.22	377.60	66.54	775.65	784.98	95.63	161.49	53.68
95th-Percentile Queue Length [veh/ln]	30.98	21.41	21.48	4.79	40.58	41.74	6.89	10.63	3.87
95th-Percentile Queue Length [ft/ln]	774.52	535.28	536.94	119.77	1014.52	1043.52	172.13	265.70	96.63

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	79.92	14.09	14.13	69.16	72.21	76.36	56.14	54.98	54.98	47.15	47.15	47.15
Movement LOS	F	B	B	E	E	E	E	D	D	D	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	29.19			72.53			55.46			47.15		
Approach LOS	C			E			E			D		
d_I, Intersection Delay [s/veh]	47.38											
Intersection LOS	D											
Intersection V/C	0.905											

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**Option 3: OY 2 EB left turn**

Number	18											
Intersection	Cedar Ave/7th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	630	1853	14	52	1323	78	109	22	566	29	22	17
Total Analysis Volume [veh/h]	663	1981	11	55	1449	69	121	23	446	31	23	14

**Intersection Settings**

Cycle Length [s]	100											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	36	65	0	9	38	0	0	26	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	7	0	0	7	0	0	17	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.32	0.62	0.62	0.04	0.34	0.34	0.22	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.39	0.52	0.53	0.03	0.40	0.40	0.09	0.29	0.07
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1714	1900	1896	1714	1900	1870	1393	1627	993
c, Capacity [veh/h]	548	1175	1172	71	646	635	301	394	271
X, volume / capacity	1.21	0.85	0.85	0.77	1.18	1.19	0.40	1.19	0.25
d, Delay for Lane Group [s/veh]	144.25	22.99	23.12	63.67	129.93	133.02	35.05	144.78	32.11
Lane Group LOS	F	C	C	E	F	F	D	F	C

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Critical Lane Group	Yes	NO	NO	NO	NO	Yes	NO	Yes	NO
50th-Percentile Queue Length [veh/ln]	29.70	18.63	18.69	1.67	32.49	32.52	2.61	21.26	1.37
50th-Percentile Queue Length [ft/ln]	742.50	465.77	467.30	41.74	812.37	813.10	65.35	531.43	34.18
95th-Percentile Queue Length [veh/ln]	43.34	25.71	25.78	3.01	46.52	46.71	4.70	31.56	2.46
95th-Percentile Queue Length [ft/ln]	1083.61	642.74	644.56	75.13	1163.06	1167.81	117.62	789.08	61.52

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	144.25	23.06	23.12	63.67	131.39	133.02	35.05	144.78	144.78	32.11	32.11	32.11
Movement LOS	F	C	C	E	F	F	D	F	F	C	C	C
Critical Movement	No	No	No	No	No	No	No	No	Yes	No	No	No
d_A, Approach Delay [s/veh]	53.32			129.10			122.28			32.11		
Approach LOS	D			F			F			C		
d_I, Intersection Delay [s/veh]	85.75											
Intersection LOS	F											
Intersection V/C	1.079											

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**Option 3: OY 2 2nd SB left turn**

Number	20											
Intersection	Rubidoux Blvd/Market St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	68	1187	807	651	1113	58	40	50	23	401	158	806
Total Analysis Volume [veh/h]	72	1258	637	726	1187	45	42	53	18	422	166	653

**Intersection Settings**

Cycle Length [s]	135											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Unsigna
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	10	44	0	29	63	0	0	19	0	0	43	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.05	0.35	0.35	0.19	0.49	0.49	0.05	0.05	0.29
(v / s)_i Volume / Saturation Flow Rate	0.04	0.35	0.39	0.21	0.33	0.03	0.02	0.04	0.32
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800
Arrival type	3			3			3		3
s, saturation flow rate [veh/h]	1810	3618	1615	3514	3618	1615	1810	1819	1834
c, Capacity [veh/h]	83	1280	571	652	1785	797	98	99	528
X, volume / capacity	0.87	0.98	1.11	1.11	0.67	0.06	0.43	0.72	1.11
d, Delay for Lane Group [s/veh]	86.42	64.64	116.93	111.55	27.76	17.96	64.69	72.10	122.27
Lane Group LOS	F	E	F	F	C	B	E	E	F



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Critical Lane Group	No	No	Yes	Yes	NO	NO	NO	Yes	Yes
50th-Percentile Queue Length [veh/ln]	2.99	24.39	30.50	16.19	14.70	0.77	1.48	2.66	28.53
50th-Percentile Queue Length [ft/ln]	74.63	609.74	762.57	404.72	367.51	19.36	37.03	66.60	713.20
95th-Percentile Queue Length [veh/ln]	5.37	32.49	42.57	24.07	20.99	1.39	2.67	4.80	39.89
95th-Percentile Queue Length [ft/ln]	134.33	812.22	1064.14	601.63	524.71	34.86	66.65	119.88	997.20

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	86.42	64.64	116.93	111.55	27.76	17.96	64.69	72.10	72.10	122.27	122.27	0.00
Movement LOS	F	E	F	F	C	B	E	E	E	F	F	
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	82.37			58.60			69.35			122.27		
Approach LOS	F			E			E			F		
d_I, Intersection Delay [s/veh]	77.06											
Intersection LOS	E											
Intersection V/C	0.961											

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**Option 3: OY 2 WB left**

Number	22											
Intersection	Market St/24th St											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	80	1117	100	10	1283	4	7	46	329	368	69	52
Total Analysis Volume [veh/h]	84	1198	79	11	1392	3	7	48	260	387	73	41

**Intersection Settings**

Cycle Length [s]	150											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	30	30	0	30	30	0	0	30	0	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	11	92	0	9	90	0	0	23	0	0	26	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	14	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.05	0.61	0.61	0.01	0.57	0.57	0.15	0.15	0.13	0.13		
(v / s)_i Volume / Saturation Flow Rate	0.05	0.63	0.05	0.01	0.73	0.00	0.03	0.16	0.11	0.06		
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800		
Arrival type	3			3			3			3		
s, saturation flow rate [veh/h]	1810	1900	1615	1810	1900	1615	1888	1615	3514	1787		
c, Capacity [veh/h]	86	1155	982	23	1090	926	278	237	441	224		
X, volume / capacity	0.98	1.04	0.08	0.47	1.28	0.00	0.20	1.09	0.88	0.51		
d, Delay for Lane Group [s/veh]	112.26	66.07	12.29	87.31	164.05	13.67	56.53	137.74	70.16	63.03		
Lane Group LOS	F	F	B	F	F	B	E	F	E	E		

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Critical Lane Group	Yes	NO	NO	NO	Yes	NO	NO	Yes	Yes	NO
50th-Percentile Queue Length [veh/ln]	4.22	51.39	1.16	0.51	78.01	0.05	1.88	13.95	7.65	4.20
50th-Percentile Queue Length [ft/ln]	105.38	1284.63	29.04	12.84	1950.22	1.16	46.88	348.82	191.14	104.90
95th-Percentile Queue Length [veh/ln]	7.58	65.26	2.09	0.92	111.18	0.08	3.38	20.94	12.18	7.55
95th-Percentile Queue Length [ft/ln]	189.56	1631.60	52.27	23.10	2779.46	2.09	84.39	523.62	304.51	188.82

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	112.26	66.07	12.29	87.31	164.05	13.67	56.53	56.53	137.74	70.16	63.03	63.03
Movement LOS	F	F	B	F	F	B	E	E	F	E	E	E
Critical Movement	No	No	No	No	Yes	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	65.80			163.13			123.56			68.54		
Approach LOS	E			F			F			E		
d_I, Intersection Delay [s/veh]	109.45											
Intersection LOS	F											
Intersection V/C	1.050											

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Option 3: OY 2 2nd SB left

Number	25											
Intersection	Market St/SR-60 EB Ramp											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left	Left	Right
Base Volume Input [veh/h]	0	976	163	512	1954	0	120	0	1165	0	0	0
Total Analysis Volume [veh/h]	0	1027	128	580	2057	0	126	0	920	0	0	0

**Intersection Settings**

Cycle Length [s]	80											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Unsigna	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	5	2	0	3	0	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	5	0	0	0	0	0
Maximum Green [s]	0	30	0	30	30	0	30	0	0	0	0	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Split [s]	0	31	0	19	50	0	30	0	0	0	0	0
Walk [s]	0	5	0	0	5	0	5	0	0	0	0	0
Pedestrian Clearance [s]	0	3	0	0	10	0	10	0	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Minimum Recall		No		No	No		No					
Maximum Recall		No		No	No		No					
Pedestrian Recall		No		No	No		No					
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

**Lane Group Calculations**

g / C, Green / Cycle	0.34	0.19	0.58	0.32	0.32	
(v / s)_i Volume / Saturation Flow Rate	0.28	0.17	0.57	0.07	0.32	
so, Base Saturation Flow per Lane [pc/h/ln]	1800	1800	1800	1800	1800	
Arrival type	3	3	3	3	3	
s, saturation flow rate [veh/h]	3618	3514	3618	1810	2859	
c, Capacity [veh/h]	1223	660	2082	588	928	
X, volume / capacity	0.84	0.88	0.99	0.21	0.99	
d, Delay for Lane Group [s/veh]	31.58	35.68	33.83	19.83	38.79	
Lane Group LOS	C	D	C	B	D	

Version 2021 (SP 0-2)

Critical Lane Group	No	NO	Yes	NO	Yes	
50th-Percentile Queue Length [veh/ln]	9.68	5.65	20.59	1.67	9.76	
50th-Percentile Queue Length [ft/ln]	242.07	141.17	514.81	41.82	243.94	
95th-Percentile Queue Length [veh/ln]	14.79	9.54	28.03	3.01	14.88	
95th-Percentile Queue Length [ft/ln]	369.66	238.60	700.86	75.28	372.01	

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	0.00	31.58	0.00	35.68	33.83	0.00	19.83	0.00	38.79	0.00	0.00	0.00
Movement LOS		C		D	C		B		D			
Critical Movement		No	No	No	No		No		Yes			
d_A, Approach Delay [s/veh]	31.58			34.24			36.51			0.00		
Approach LOS	C			C			D			A		
d_I, Intersection Delay [s/veh]	34.16											
Intersection LOS	C											
Intersection V/C	0.890											

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*APPENDIX D – 2040 POST PROCESSING SHEETS*

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AM

Existing Traffic Volumes												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	615	801	308	563	657	1094	1048	0	519	375	0	691
2	146	1235	88	550	875	156	190	194	58	49	243	350
3	0	1408	23	56	888	0	0	0	0	10	0	63
4	134	1235	35	56	761	65	99	59	41	48	75	90
5	5	3	3	11	0	10	9	177	3	8	203	10
6	59	165	30	6	74	5	5	81	74	61	128	19
7	0	208	39	22	177	0	0	0	0	37	0	37
8	9	8	10	6	12	26	5	110	6	8	172	9
9	0	0	0	26	0	4	1	61	0	0	76	6
10	5	38	5	14	18	13	1	72	6	3	65	17
11	372	1158	0	0	1225	1012	0	0	0	339	5	486
12	0	1001	385	485	1080	0	530	4	441	0	0	0
13	5	1205	4	80	1236	190	92	0	32	0	0	99
14	99	853	12	200	962	126	169	75	54	10	117	188
15	69	780	18	62	871	53	63	43	47	10	65	38
16	15	745	32	92	811	23	52	34	22	30	37	49
17	23	755	1	19	805	19	79	29	25	21	16	18
18	38	677	7	14	808	23	34	12	75	43	11	12
19	4	630	97	129	806	5	8	0	9	141	1	45
20	41	267	353	466	380	26	28	65	26	211	99	481
21	9	5	5	163	17	227	359	505	21	5	551	221
22	57	773	203	30	630	0	4	30	82	101	17	21
23	30	1004	197	41	760	0	0	0	9	197	5	43
24	153	260	0	0	831	137	0	0	0	101	0	969
25	0	301	127	664	265		112	3	337	0	0	0

AM

Existing Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	1724	1551	3275	2314	2540	4854	1567	1709	3276	1066	871	1937
2	1469	982	2451	1581	1775	3356	442	545	987	642	832	1474
3	1431	898	2329	944	1471	2415	0	0	0	73	79	152
4	1404	850	2254	882	1424	2306	199	274	473	213	150	363
5	11	11	22	21	22	43	189	218	407	221	191	412
6	254	209	463	85	189	274	160	192	352	208	117	325
7	247	214	461	199	245	444	0	0	0	74	61	135
8	27	26	53	44	22	66	121	207	328	189	126	315
9	0	0	0	30	7	37	62	80	142	82	87	169
10	48	27	75	45	56	101	79	83	162	85	91	176
11	1530	1564	3094	2237	1644	3881	0	1389	1389	830	0	830
12	1386	1521	2907	1565	1531	3096	975	0	975	0	874	874
13	1214	1268	2482	1506	1396	2902	124	195	319	99	84	183
14	964	1026	1990	1288	1210	2498	298	342	640	315	287	602
15	867	928	1795	986	881	1867	153	187	340	113	123	236
16	792	863	1655	926	846	1772	108	75	183	116	158	274
17	779	851	1630	843	852	1695	133	58	191	55	49	104
18	722	926	1648	845	723	1568	121	72	193	66	33	99
19	731	956	1687	940	683	1623	17	10	27	187	226	413
20	661	617	1278	872	776	1648	119	166	285	791	884	1675
21	19	43	62	407	585	992	885	787	1672	777	673	1450
22	1033	813	1846	660	798	1458	116	74	190	139	263	402
23	1231	966	2197	801	1047	1848	9	35	44	245	238	483
24	413	932	1345	968	1229	2197	0	290	290	1070	0	1070
25	428	602	1030	929	413	1342	452	0	452	0	794	794



AM

Peak Period Modeled Base Year Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	2479	3472	5951	5429	4265	9694	13353	21525	34878	20758	12757	33515
2	2734	2624	5358	3437	2419	5856	1319	1320	2639	1514	2641	4155
3	2653	2529	5182	2624	2734	5358	0	0	0	24	42	66
4	3688	2938	6626	2529	2653	5182	539	1196	1735	299	267	566
5	234	416	650	158	479	637	561	942	1503	1302	417	1719
6	990	587	1577	644	635	1279	417	1302	1719	912	439	1351
7	1314	1131	2445	587	990	1577	0	0	0	612	392	1004
8	148	183	331	272	77	349	912	439	1351	545	232	777
9	0	0	0	41	34	75	392	612	1004	571	357	928
10	447	154	601	92	179	271	357	571	928	795	787	1582
11	2676	3582	6258	4459	2819	7278	0	2025	2025	1291	0	1291
12	2639	3128	5767	3582	2676	6258	1351	0	1351	0	1768	1768
13	2821	2735	5556	3128	2639	5767	121	697	818	0	0	0
14	2411	2406	4817	2734	2821	5555	1500	1462	2962	947	903	1850
15	2792	2549	5341	2406	2411	4817	478	744	1222	289	261	550
16	1920	1886	3806	2549	2792	5341	787	795	1582	561	343	904
17	1980	2003	3983	1886	1920	3806	41	67	108	185	101	286
18	2171	2354	4525	2004	1980	3984	350	190	540	1	1	2
19	2096	2305	4401	2397	2090	4487	0	0	0	70	169	239
20	1767	1624	3391	2005	2011	4016	1081	711	1792	2296	2805	5101
21	0	0	0	858	1814	2672	2805	2296	5101	2207	1760	3967
22	2100	1790	3890	1760	2207	3967	353	120	473	0	0	0
23	2995	2774	5769	1790	2100	3890	0	0	0	1223	1135	2358
24	2638	2430	5068	2774	2995	5769	0	1322	1322	1336	0	1336
25	2335	1183	3518	2430	2638	5068	640	0	640	0	1583	1583

AM

## Peak Hour Modeled Base Year Link Volumes

0.38

HOURLY FACTOR	0.38											
	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
Intersection	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	942	1319	2261	2063	1621	3684	5074	8180	13254	7888	4848	12736
2	1039	997	2036	1306	919	2225	501	502	1003	575	1004	1579
3	1008	961	1969	997	1039	2036	0	0	0	9	16	25
4	1401	1116	2518	961	1008	1969	205	454	659	114	101	215
5	89	158	247	60	182	242	213	358	571	495	158	653
6	376	223	599	245	241	486	158	495	653	347	167	513
7	499	430	929	223	376	599	0	0	0	233	149	382
8	56	70	126	103	29	133	347	167	513	207	88	295
9	0	0	0	16	13	29	149	233	382	217	136	353
10	170	59	228	35	68	103	136	217	353	302	299	601
11	1017	1361	2378	1694	1071	2766	0	770	770	491	0	491
12	1003	1189	2191	1361	1017	2378	513	0	513	0	672	672
13	1072	1039	2111	1189	1003	2191	46	265	311	0	0	0
14	916	914	1830	1039	1072	2111	570	556	1126	360	343	703
15	1061	969	2030	914	916	1830	182	283	464	110	99	209
16	730	717	1446	969	1061	2030	299	302	601	213	130	344
17	752	761	1514	717	730	1446	16	25	41	70	38	109
18	825	895	1720	762	752	1514	133	72	205	0	0	1
19	796	876	1672	911	794	1705	0	0	0	27	64	91
20	671	617	1289	762	764	1526	411	270	681	872	1066	1938
21	0	0	0	326	689	1015	1066	872	1938	839	669	1507
22	798	680	1478	669	839	1507	134	46	180	0	0	0
23	1138	1054	2192	680	798	1478	0	0	0	465	431	896
24	1002	923	1926	1054	1138	2192	0	502	502	508	0	508
25	887	450	1337	923	1002	1926	243	0	243	0	602	602

Peak Period Modeled Future Year Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	2602	3953	6555	6875	4021	10896	8117	23981	32098	9919	24280	34199
2	3031	3021	6052	3871	2503	6374	2248	2579	4827	1123	2170	3293
3	2931	2885	5816	3031	3021	6052	0	0	0	16	35	51
4	3926	3702	7628	2885	2931	5816	1009	1255	2264	508	440	948
5	221	324	545	182	484	666	1506	1067	2573	1170	1204	2374
6	1801	1875	3676	1665	1399	3064	1210	1176	2386	735	962	1697
7	1681	1311	2992	1875	1801	3676	0	0	0	874	1317	2191
8	152	208	360	211	88	299	735	962	1697	420	715	1135
9	0	0	0	34	47	81	1317	874	2191	840	1271	2111
10	514	143	657	113	190	303	1271	840	2111	1056	1781	2837
11	2849	4006	6855	4821	2839	7660	0	1935	1935	1111	0	1111
12	3395	3707	7102	2849	4006	6855	852	0	852	0	1697	1697
13	3506	3433	6939	3707	3395	7102	132	517	649	0	0	0
14	2575	2373	4948	3433	3506	6939	1461	1469	2930	1197	1319	2516
15	2577	2723	5300	2373	2575	4948	998	647	1645	293	297	590
16	2056	3057	5113	2577	2723	5300	1781	1055	2836	660	529	1189
17	2099	3179	5278	3057	2056	5113	59	94	153	217	102	319
18	2425	4247	6672	3179	2099	5278	325	1068	1393	2	2	4
19	2444	4097	6541	4171	2302	6473	0	0	0	192	408	600
20	2430	3479	5909	3618	2331	5949	1510	1053	2563	2800	3496	6296
21	0	0	0	1719	2036	3755	3496	2800	6296	2029	2408	4437
22	2112	2227	4339	2408	2029	4437	440	388	828	0	0	0
23	3084	3391	6475	2227	2112	4339	0	0	0	1328	1134	2462
24	2801	3078	5879	3391	3084	6475	0	1393	1393	1363	0	1363
25	2502	2546	5048	2801	3078	5879	1424	0	1424	0	1658	1658

Peak Hour Modeled Future Year Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	989	1502	2491	2613	1528	4140	3084	9113	12197	3769	9226	12996
2	1152	1148	2300	1471	951	2422	854	980	1834	427	825	1251
3	1114	1096	2210	1152	1148	2300	0	0	0	6	13	19
4	1492	1407	2899	1096	1114	2210	383	477	860	193	167	360
5	84	123	207	69	184	253	572	405	978	445	458	902
6	684	713	1397	633	532	1164	460	447	907	279	366	645
7	639	498	1137	713	684	1397	0	0	0	332	500	833
8	58	79	137	80	33	114	279	366	645	160	272	431
9	0	0	0	13	18	31	500	332	833	319	483	802
10	195	54	250	43	72	115	483	319	802	401	677	1078
11	1083	1522	2605	1832	1079	2911	0	735	735	422	0	422
12	1290	1409	2699	1083	1522	2605	324	0	324	0	645	645
13	1332	1305	2637	1409	1290	2699	50	196	247	0	0	0
14	979	902	1880	1305	1332	2637	555	558	1113	455	501	956
15	979	1035	2014	902	979	1880	379	246	625	111	113	224
16	781	1162	1943	979	1035	2014	677	401	1078	251	201	452
17	798	1208	2006	1162	781	1943	22	36	58	82	39	121
18	922	1614	2535	1208	798	2006	124	406	529	1	1	2
19	929	1557	2486	1585	875	2460	0	0	0	73	155	228
20	923	1322	2245	1375	886	2261	574	400	974	1064	1328	2392
21	0	0	0	653	774	1427	1328	1064	2392	771	915	1686
22	803	846	1649	915	771	1686	167	147	315	0	0	0
23	1172	1289	2461	846	803	1649	0	0	0	505	431	936
24	1064	1170	2234	1289	1172	2461	0	529	529	518	0	518
25	951	967	1918	1064	1170	2234	541	0	541	0	630	630

Total Modeled Growth												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	0.0496	0.1385		0.2663	0.0000		0.0000	0.1141		0.0000	0.9033	
2	0.1086	0.1513		0.1263	0.0347		0.7043	0.9538		0.0000	0.0000	
3	0.1048	0.1408		0.1551	0.1050		0.0000	0.0000		0.0000	0.0000	
4	0.0645	0.2600		0.1408	0.1048		0.8720	0.0493		0.6990	0.6479	
5	0.0000	0.0000		0.1519	0.0104		1.6845	0.1327		0.0000	1.8873	
6	0.8192	2.1942		1.5854	1.2031		1.9017	0.0000		0.0000	1.1913	
7	0.2793	0.1592		2.1942	0.8192		0.0000	0.0000		0.4281	2.3597	
8	0.0270	0.1366		0.0000	0.1429		0.0000	1.1913		0.0000	2.0819	
9	0.0000	0.0000		0.0000	0.3824		2.3597	0.4281		0.4711	2.5602	
10	0.1499	0.0000		0.2283	0.0615		2.5602	0.4711		0.3283	1.2630	
11	0.0646	0.1184		0.0812	0.0071		0.0000	0.0000		0.0000	0.0000	
12	0.2865	0.1851		0.0000	0.4970		0.0000	0.0000		0.0000	0.0000	
13	0.2428	0.2552		0.1851	0.2865		0.0909	0.0000		0.0000	0.0000	
14	0.0680	0.0000		0.2557	0.2428		0.0000	0.0048		0.2640	0.4607	
15	0.0000	0.0683		0.0000	0.0680		1.0879	0.0000		0.0138	0.1379	
16	0.0708	0.6209		0.0110	0.0000		1.2630	0.3270		0.1765	0.5423	
17	0.0601	0.5871		0.6209	0.0708		0.4390	0.4030		0.1730	0.0099	
18	0.1170	0.8042		0.5863	0.0601		0.0000	4.6211		1.0000	1.0000	
19	0.1660	0.7774		0.7401	0.1014		0.0000	0.0000		1.7429	1.4142	
20	0.3752	1.1422		0.8045	0.1591		0.3969	0.4810		0.2195	0.2463	
21	0.0000	0.0000		1.0035	0.1224		0.2463	0.2195		0.0000	0.3682	
22	0.0057	0.2441		0.3682	0.0000		0.0100	0.0100		0.0000	0.0000	
23	0.0297	0.2224		0.2441	0.0057		0.0000	0.0000		0.0859	0.0000	
24	0.0618	0.2667		0.2224	0.0297		0.0000	0.0537		0.0202	0.0000	
25	0.0715	1.1522		0.1527	0.1668		1.2250	0.0000		0.0000	0.0474	

Modeled Growth Per Year												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	0.0018	0.0049		0.0095	0.0000		0.0000	0.0041		0.0000	0.0323	
2	0.0039	0.0054		0.0045	0.0012		0.0252	0.0341		0.0000	0.0000	
3	0.0037	0.0050		0.0055	0.0037		0.0000	0.0000		0.0000	0.0000	
4	0.0023	0.0093		0.0050	0.0037		0.0311	0.0018		0.0250	0.0231	
5	0.0000	0.0000		0.0054	0.0004		0.0602	0.0047		0.0000	0.0674	
6	0.0293	0.0784		0.0566	0.0430		0.0679	0.0000		0.0000	0.0425	
7	0.0100	0.0057		0.0784	0.0293		0.0000	0.0000		0.0153	0.0843	
8	0.0010	0.0049		0.0000	0.0051		0.0000	0.0425		0.0000	0.0744	
9	0.0000	0.0000		0.0000	0.0137		0.0843	0.0153		0.0168	0.0914	
10	0.0054	0.0000		0.0082	0.0022		0.0914	0.0168		0.0117	0.0451	
11	0.0023	0.0042		0.0029	0.0003		0.0000	0.0000		0.0000	0.0000	
12	0.0102	0.0066		0.0000	0.0178		0.0000	0.0000		0.0000	0.0000	
13	0.0087	0.0091		0.0066	0.0102		0.0032	0.0000		0.0000	0.0000	
14	0.0024	0.0000		0.0091	0.0087		0.0000	0.0002		0.0094	0.0165	
15	0.0000	0.0024		0.0000	0.0024		0.0389	0.0000		0.0005	0.0049	
16	0.0025	0.0222		0.0004	0.0000		0.0451	0.0117		0.0063	0.0194	
17	0.0021	0.0210		0.0222	0.0025		0.0157	0.0144		0.0062	0.0004	
18	0.0042	0.0287		0.0209	0.0021		0.0000	0.1650		0.0357	0.0357	
19	0.0059	0.0278		0.0264	0.0036		0.0000	0.0000		0.0622	0.0505	
20	0.0134	0.0408		0.0287	0.0057		0.0142	0.0172		0.0078	0.0088	
21	0.0000	0.0000		0.0358	0.0044		0.0088	0.0078		0.0000	0.0131	
22	0.0002	0.0087		0.0131	0.0000		0.0004	0.0004		0.0000	0.0000	
23	0.0011	0.0079		0.0087	0.0002		0.0000	0.0000		0.0031	0.0000	
24	0.0022	0.0095		0.0079	0.0011		0.0000	0.0019		0.0007	0.0000	
25	0.0026	0.0411		0.0055	0.0060		0.0438	0.0000		0.0000	0.0017	

Future Baseline Peak Hour Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	1788	1712	3500	2776	2540	5316	1567	1855	3422	1066	1461	2527
2	1589	1093	2682	1731	1821	3552	675	935	1610	642	832	1474
3	1543	993	2536	1054	1587	2641	0	0	0	73	79	152
4	1472	1016	2488	975	1536	2511	329	284	613	325	223	548
5	11	11	22	23	22	46	428	240	667	221	461	682
6	410	553	963	186	360	546	388	192	580	208	222	430
7	299	240	538	526	396	922	0	0	0	98	169	267
8	28	29	56	44	24	68	121	392	513	189	323	512
9	0	0	0	30	9	39	172	106	277	111	254	365
10	53	27	80	53	59	111	231	112	343	106	177	283
11	1604	1703	3307	2373	1653	4026	0	1389	1389	830	0	830
12	1684	1732	3416	1565	2102	3667	975	0	975	0	874	874
13	1435	1511	2946	1715	1696	3411	132	195	327	99	84	183
14	1013	1026	2039	1535	1430	2965	298	343	641	377	386	764
15	867	976	1843	986	926	1912	278	187	465	114	136	250
16	834	1265	2099	934	846	1780	210	93	304	131	222	354
17	814	1226	2040	1236	897	2133	177	76	252	62	49	111
18	785	1484	2270	1217	756	1972	121	322	443	116	58	173
19	822	1513	2335	1462	735	2197	17	10	27	431	466	897
20	847	1146	1993	1398	869	2267	154	226	380	921	1047	1969
21	19	43	62	713	639	1352	1049	917	1965	777	859	1636
22	1037	962	1999	842	798	1640	117	75	191	139	263	402
23	1258	1127	2386	948	1051	1999	9	35	44	261	238	499
24	432	1118	1551	1129	1256	2386	0	302	302	1086	0	1086
25	451	1122	1573	1035	465	1500	867	0	867	0	822	822

PM

Existing Traffic Volumes												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	475	1171	571	592	946	882	976		525	479		605
2	166	1262	183	675	1117	134	308	523	80	181	307	707
3		1569	13	48	1343					9		51
4	163	1298	43	104	1127	97	155	135	124	99	118	98
5	1	9	6	25	7	9	11	360	6	9	305	17
6	99	269	66	17	222	10	8	225	162	39	195	29
7		352	154	59	326					40		46
8	11	8	11	13	16	21	16	269	13	13	249	22
9				13		8	10	210			93	9
10	13	31	10	38	50	15	29	180	20	8	92	52
11	330	1348			1164	637				346	5	566
12		1162	352	397	1083		582	2	237			
13	1	1316	2	39	1056	233	177	4	16	1	2	118
14	82	893	26	144	801	108	273	307	124	25	161	169
15	110	927	32	76	759	47	75	135	93	26	112	56
16	58	898	37	101	778	47	39	89	46	45	49	76
17	51	941	9	39	767	27	63	23	33	18	21	15
18	105	845	14	52	766	14	45	21	284	29	10	17
19	9	822	124	153	826	9	13	7	5	219	9	181
20	16	338	396	534	468	23	29	50	15	229	84	525
21	13	14	7	181	11	293	339	499	9	8	556	266
22	58	785	82	9	691	4	7	46	261	282	69	52
23	21	771	203	97	1043	0	0	12	69	193	5	45
24	202	284			1131	170				71	3	708
25		456	63	512	574		120	2	752			

PM



Existing Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	2217	1950	4167	2420	2752	5172	1501	1357	2858	1084	1163	2247
2	1611	1378	2989	1926	2277	4203	911	607	1518	1195	1381	2576
3	1582	1352	2934	1391	1620	3011	0	0	0	60	61	121
4	1504	1350	2854	1328	1551	2879	414	378	792	315	282	597
5	16	22	38	41	37	78	377	315	692	331	391	722
6	434	423	857	249	306	555	395	304	699	263	308	571
7	506	366	872	385	398	783	0	0	0	86	213	299
8	30	42	72	50	46	96	298	281	579	284	293	577
9	0	0	0	21	19	40	220	101	321	102	223	325
10	54	78	132	103	112	215	229	120	349	152	228	380
11	1678	1510	3188	1801	1914	3715	0	972	972	917	0	917
12	1514	1320	2834	1480	1744	3224	821	0	821	0	751	751
13	1319	1073	2392	1328	1611	2939	197	236	433	121	45	166
14	1001	950	1951	1053	1335	2388	704	351	1055	355	477	832
15	1069	878	1947	882	1058	1940	303	269	572	194	243	437
16	993	869	1862	926	1013	1939	174	154	328	170	227	397
17	1001	818	1819	833	1019	1852	119	99	218	54	71	125
18	964	1079	2043	832	907	1739	350	129	479	56	87	143
19	955	1050	2005	988	1016	2004	25	27	52	409	284	693
20	750	712	1462	1025	892	1917	94	123	217	838	980	1818
21	34	28	62	485	619	1104	847	862	1709	830	687	1517
22	925	1234	2159	704	844	1548	314	131	445	403	137	540
23	995	1305	2300	1140	816	1956	81	26	107	243	312	555
24	486	1202	1688	1301	992	2293	0	375	375	782	0	782
25	519	1326	1845	1086	576	1662	874	0	874	0	577	577

PM

Peak Period Modeled Base Year Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	2479	3472	5951	5429	4265	9694	13353	21525	34878	20758	12757	33515
2	2734	2624	5358	3437	2419	5856	1514	2641	4155	1319	1321	2640
3	2653	2529	5182	2624	2734	5358	0	0	0	24	42	66
4	3688	2938	6626	2529	2653	5182	539	1196	1735	299	267	566
5	234	416	650	158	479	637	560	942	1502	1302	417	1719
6	990	587	1577	644	635	1279	417	1302	1719	912	439	1351
7	1314	1131	2445	587	990	1577	0	0	0	612	392	1004
8	148	182	330	272	77	349	545	232	777	439	912	1351
9	0	0	0	41	34	75	392	612	1004	571	357	928
10	447	154	601	91	179	270	357	571	928	795	787	1582
11	2676	3582	6258	4459	2819	7278	0	2025	2025	1291	0	1291
12	2639	3128	5767	3582	2676	6258	1351	0	1351	0	1768	1768
13	2821	2734	5555	3128	2638	5766	121	697	818	0	0	0
14	2411	2406	4817	2734	2821	5555	1500	1462	2962	947	903	1850
15	2792	2549	5341	2406	2411	4817	478	744	1222	289	261	550
16	1920	1886	3806	2549	2792	5341	787	795	1582	561	343	904
17	1980	2004	3984	1886	1920	3806	41	67	108	185	101	286
18	2171	2354	4525	2004	1980	3984	350	190	540	0	0	0
19	2096	2305	4401	2399	2090	4489	0	0	0	70	169	239
20	1768	1624	3392	2005	2011	4016	1081	711	1792	2297	2805	5102
21	0	0	0	858	1813	2671	2805	2296	5101	2207	1760	3967
22	2100	1790	3890	1760	2207	3967	353	120	473	0	0	0
23	2995	2774	5769	1790	2100	3890	0	0	0	1223	1135	2358
24	2638	2430	5068	2774	2995	5769	0	1322	1322	1336		1336
25	2335	1183	3518	2430	2638	5068	640	0	640	0	1584	1584

PM

PM

Peak Hour Modeled Base Year Link Volumes

0.38

HOUR FACTOR	0.38											
	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
Intersection	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	942	1319	2261	2063	1621	3684	5074	8180	13254	7888	4848	12736
2	1039	997	2036	1306	919	2225	575	1004	1579	501	502	1003
3	1008	961	1969	997	1039	2036	0	0	0	9	16	25
4	1401	1116	2518	961	1008	1969	205	454	659	114	101	215
5	89	158	247	60	182	242	213	358	571	495	158	653
6	376	223	599	245	241	486	158	495	653	347	167	513
7	499	430	929	223	376	599	0	0	0	233	149	382
8	56	69	125	103	29	133	207	88	295	167	347	513
9	0	0	0	16	13	29	149	233	382	217	136	353
10	170	59	228	35	68	103	136	217	353	302	299	601
11	1017	1361	2378	1694	1071	2766	0	770	770	491	0	491
12	1003	1189	2191	1361	1017	2378	513	0	513	0	672	672
13	1072	1039	2111	1189	1002	2191	46	265	311	0	0	0
14	916	914	1830	1039	1072	2111	570	556	1126	360	343	703
15	1061	969	2030	914	916	1830	182	283	464	110	99	209
16	730	717	1446	969	1061	2030	299	302	601	213	130	344
17	752	762	1514	717	730	1446	16	25	41	70	38	109
18	825	895	1720	762	752	1514	133	72	205	0	0	0
19	796	876	1672	912	794	1706	0	0	0	27	64	91
20	672	617	1289	762	764	1526	411	270	681	873	1066	1939
21	0	0	0	326	689	1015	1066	872	1938	839	669	1507
22	798	680	1478	669	839	1507	134	46	180	0	0	0
23	1138	1054	2192	680	798	1478	0	0	0	465	431	896
24	1002	923	1926	1054	1138	2192	0	502	502	508	0	508
25	887	450	1337	923	1002	1926	243	0	243	0	602	602

PM

PM

Peak Period Modeled Future Year Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	7946	4624	12570	7717	7341	15058	15681	24521	40202	25951	20808	46759
2	5753	3175	8928	4551	7830	12381	4887	2136	7023	2175	4225	6400
3	5610	3165	8775	3175	5753	8928	0	0	0	47	63	110
4	7836	3899	11735	3165	5610	8775	2159	1538	3697	496	2608	3104
5	352	328	680	387	303	690	3893	1396	5289	978	3218	4196
6	3362	3455	6817	2470	2632	5102	3893	1396	5289	978	3218	4196
7	2293	2362	4655	3455	3361	6816			0	2616	2640	5256
8	219	217	436	139	290	429	3218	978	4196	656	2747	3403
9			0	57	53	110	2640	2616	5256	2559	2587	5146
10	927	574	1501	206	164	370	2587	2559	5146	2542	2964	5506
11	6514	5270	11784	5327	6848	12175	0	2339	2339	2615	0	2615
12	6957	4610	11567	6514	5270	11784	1493	0	1493	0	2596	2596
13	6593	4698	11291	4610	6957	11567	678	226	904	0	0	0
14	5010	2785	7795	4698	6593	11291	2289	1906	4195	2047	2760	4807
15	4316	3961	8277	2785	5010	7795	3074	1036	4110	370	539	909
16	4307	3906	8213	3961	4316	8277	2964	2541	5505	853	1322	2175
17	5096	3970	9066	3906	4307	8213	130	730	860	158	283	441
18	6467	4772	11239	3970	5095	9065	803	1371	2174	0	0	0
19	6373	4566	10939	4616	6344	10960	0	0	0	511	591	1102
20	6223	4132	10355	4327	5440	9767	1283	1955	3238	4476	4781	9257
21	0	0	0	2818	3230	6048	4476	4781	9257	3303	3196	6499
22	2986	3233	6219	3196	3303	6499	736	687	1423	0	0	0
23	4628	4767	9395	3233	2986	6219	0	0	0	1778	1886	3664
24	5299	4335	9634	4767	4627	9394	0	2672	2672	1570	0	1570
25	4835	3315	8150	4335	5299	9634	2035	0	2035	0	2591	2591

PM

PM

Peak Hour Modeled Future Year Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	3019	1757	4777	2932	2790	5722	5959	9318	15277	9861	7907	17768
2	2186	1207	3393	1729	2975	4705	1857	812	2669	827	1606	2432
3	2132	1203	3335	1207	2186	3393	0	0	0	18	24	42
4	2978	1482	4459	1203	2132	3335	820	584	1405	188	991	1180
5	134	125	258	147	115	262	1479	530	2010	372	1223	1594
6	1278	1313	2590	939	1000	1939	1479	530	2010	372	1223	1594
7	871	898	1769	1313	1277	2590	0	0	0	994	1003	1997
8	83	82	166	53	110	163	1223	372	1594	249	1044	1293
9	0	0	0	22	20	42	1003	994	1997	972	983	1955
10	352	218	570	78	62	141	983	972	1955	966	1126	2092
11	2475	2003	4478	2024	2602	4627	0	889	889	994	0	994
12	2644	1752	4395	2475	2003	4478	567	0	567	0	986	986
13	2505	1785	4291	1752	2644	4395	258	86	344	0	0	0
14	1904	1058	2962	1785	2505	4291	870	724	1594	778	1049	1827
15	1640	1505	3145	1058	1904	2962	1168	394	1562	141	205	345
16	1637	1484	3121	1505	1640	3145	1126	966	2092	324	502	827
17	1936	1509	3445	1484	1637	3121	49	277	327	60	108	168
18	2457	1813	4271	1509	1936	3445	305	521	826	0	0	0
19	2422	1735	4157	1754	2411	4165	0	0	0	194	225	419
20	2365	1570	3935	1644	2067	3711	488	743	1230	1701	1817	3518
21	0	0	0	1071	1227	2298	1701	1817	3518	1255	1214	2470
22	1135	1229	2363	1214	1255	2470	280	261	541	0	0	0
23	1759	1811	3570	1229	1135	2363	0	0	0	676	717	1392
24	2014	1647	3661	1811	1758	3570	0	1015	1015	597	0	597
25	1837	1260	3097	1647	2014	3661	773	0	773	0	985	985

PM

Total Modeled Growth												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	2.2053	0.3318		0.4214	0.7212		0.1743	0.1392		0.2502	0.6311	
2	1.1042	0.2100		0.3241	2.2369		2.2279	0.0000		0.6490	2.1983	
3	1.1146	0.2515		0.2100	1.1042		0.0000	0.0000		0.9583	0.5000	
4	1.1247	0.3271		0.2515	1.1146		3.0056	0.2860		0.6589	8.7678	
5	0.5043	0.0000		1.4494	0.0000		5.9518	0.4820		0.0000	6.7170	
6	2.3960	4.8859		2.8354	3.1449		8.3357	0.0722		0.0724	6.3303	
7	0.7451	1.0884		4.8859	2.3949		0.0000	0.0000		3.2745	5.7347	
8	0.4797	0.1923		0.0000	2.7662		4.9046	3.2155		0.4943	2.0121	
9	0.0000	0.0000		0.3902	0.5588		5.7347	3.2745		3.4816	6.2465	
10	1.0738	2.7273		1.2637	0.0000		6.2465	3.4816		2.1975	2.7662	
11	1.4342	0.4712		0.1947	1.4292		0.0000	0.1551		1.0256	0.0000	
12	1.6362	0.4738		0.8185	0.9694		0.1051	0.0000		0.0000	0.4683	
13	1.3371	0.7184		0.4738	1.6372		4.6033	0.0000		0.0000	0.0000	
14	1.0780	0.1575		0.7184	1.3371		0.5260	0.3037		1.1616	2.0565	
15	0.5458	0.5539		0.1575	1.0780		5.4310	0.3925		0.2803	1.0651	
16	1.2432	1.0710		0.5539	0.5458		2.7662	2.1962		0.5205	2.8542	
17	1.5737	0.9810		1.0710	1.2432		2.1707	9.8955		0.0000	1.8020	
18	1.9788	1.0272		0.9810	1.5732		1.2943	6.2158		0.0000	0.0000	
19	2.0406	0.9809		0.9241	2.0354		0.0000	0.0000		6.3000	2.4970	
20	2.5198	1.5443		1.1581	1.7051		0.1869	1.7496		0.9486	0.7045	
21	0.0000	0.0000		2.2844	0.7816		0.5957	1.0823		0.4966	0.8159	
22	0.4219	0.8061		0.8159	0.4966		0.0100	0.0100		0.0000	0.0000	
23	0.5452	0.7185		0.8061	0.4219		0.0000	0.0000		0.0000	0.0000	
24	1.0087	0.7840		0.7185	0.5449		0.0000	0.0000		0.0000	0.0000	
25	1.0707	1.8022		0.7840	1.0087		0.0000	0.0000		0.0000	0.0000	

Modeled Growth Per Year												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	0.0788	0.0118		0.0151	0.0258		0.0062	0.0050		0.0089	0.0225	
2	0.0394	0.0075		0.0116	0.0799		0.0796	0.0000		0.0232	0.0785	
3	0.0398	0.0090		0.0075	0.0394		0.0000	0.0000		0.0342	0.0179	
4	0.0402	0.0117		0.0090	0.0398		0.1073	0.0102		0.0235	0.3131	
5	0.0180	0.0000		0.0518	0.0000		0.2126	0.0172		0.0000	0.2399	
6	0.0856	0.1745		0.1013	0.1123		0.2977	0.0026		0.0026	0.2261	
7	0.0266	0.0389		0.1745	0.0855		0.0000	0.0000		0.1169	0.2048	
8	0.0171	0.0069		0.0000	0.0988		0.1752	0.1148		0.0177	0.0719	
9	0.0000	0.0000		0.0139	0.0200		0.2048	0.1169		0.1243	0.2231	
10	0.0384	0.0974		0.0451	0.0000		0.2231	0.1243		0.0785	0.0988	
11	0.0512	0.0168		0.0070	0.0510		0.0000	0.0055		0.0366	0.0000	
12	0.0584	0.0169		0.0292	0.0346		0.0038	0.0000		0.0000	0.0167	
13	0.0478	0.0257		0.0169	0.0585		0.1644	0.0000		0.0000	0.0000	
14	0.0385	0.0056		0.0257	0.0478		0.0188	0.0108		0.0415	0.0734	
15	0.0195	0.0198		0.0056	0.0385		0.1940	0.0140		0.0100	0.0380	
16	0.0444	0.0383		0.0198	0.0195		0.0988	0.0784		0.0186	0.1019	
17	0.0562	0.0350		0.0383	0.0444		0.0775	0.3534		0.0000	0.0644	
18	0.0707	0.0367		0.0350	0.0562		0.0462	0.2220		0.0000	0.0000	
19	0.0729	0.0350		0.0330	0.0727		0.0000	0.0000		0.2250	0.0892	
20	0.0900	0.0552		0.0414	0.0609		0.0067	0.0625		0.0339	0.0252	
21	0.0000	0.0000		0.0816	0.0279		0.0213	0.0387		0.0177	0.0291	
22	0.0151	0.0288		0.0291	0.0177		0.0004	0.0004		0.0000	0.0000	
23	0.0195	0.0257		0.0288	0.0151		0.0000	0.0000		0.0000	0.0000	
24	0.0360	0.0280		0.0257	0.0195		0.0000	0.0000		0.0000	0.0000	
25	0.0382	0.0644		0.0280	0.0360		0.0000	0.0000		0.0000	0.0000	

Future Baseline Peak Hour Link Volumes												
Intersection	NB LINK (SOUTH LEG)			SB LINK (NORTH LEG)			EB LINK (WEST LEG)			WB LINK (EAST LEG)		
	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL	APPROACH	DEPARTURE	TOTAL
1	5884	2435	8319	3185	4241	7426	1697	1499	3196	1287	1713	3001
2	2945	1595	4540	2394	6097	8491	2433	607	3040	1777	3658	5435
3	2904	1607	4511	1610	2962	4572	0	0	0	103	84	187
4	2773	1681	4454	1578	2848	4426	1347	459	1806	471	2136	2607
5	22	22	44	86	37	123	2060	429	2489	331	2361	2692
6	1214	1973	3187	779	1028	1806	2864	320	3185	277	1770	2048
7	789	665	1454	1796	1113	2909	0	0	0	297	1129	1426
8	41	48	89	50	141	191	1394	959	2353	389	735	1124
9	0	0	0	27	27	54	1166	349	1515	368	1268	1636
10	97	238	335	201	112	313	1302	433	1735	403	701	1104
11	3483	2044	5527	2064	3966	6030	0	1085	1085	1622	0	1622
12	3372	1789	5161	2389	3012	5400	886	0	886	0	1015	1015
13	2642	1651	4293	1800	3589	5389	877	236	1113	121	45	166
14	1810	1062	2873	1620	2674	4294	982	431	1413	664	1213	1877
15	1507	1243	2749	986	1913	2900	1537	348	1885	235	437	672
16	1919	1567	3486	1311	1428	2738	535	408	943	236	713	949
17	2182	1420	3602	1502	1969	3471	313	834	1146	54	167	221
18	2395	1910	4305	1444	1977	3421	690	730	1420	56	87	143
19	2417	1822	4239	1673	2567	4240	25	27	52	2342	816	3157
20	2167	1537	3704	1915	2033	3948	107	284	392	1434	1498	2932
21	34	28	62	1316	982	2298	1225	1562	2787	1139	1107	2247
22	1218	1980	3198	1135	1158	2293	316	132	448	403	137	540
23	1402	2008	3410	1829	1074	2903	81	26	107	243	312	555
24	854	1909	2762	2002	1397	3399	0	375	375	782	0	782
25	936	3118	4054	1725	1012	2736	874	0	874	0	577	577



## AM

Intersection	Scenario	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	2020 Counts	615	801	308	563	657	1094	1048	0	519	375	0	691
	2040 Volumes	633	759	489	972	728	1222	1074	0	571	413	0	707
	Adjusted 2040 Volumes	633	801	489	972	728	1222	1074	0	571	413	0	707
2	2020 Counts	146	1235	88	550	875	156	190	194	58	49	243	350
	2040 Volumes	280	1249	76	485	954	307	309	271	101	38	348	263
	Adjusted 2040 Volumes	280	1249	88	550	954	307	309	271	101	49	348	350
3	2020 Counts	0	1408	23	56	888	0	0	0	0	10	0	63
	2040 Volumes	0	1524	0	79	984	0	0	0	0	10	0	63
	Adjusted 2040 Volumes	0	1524	23	79	984	0	0	0	0	10	0	63
4	2020 Counts	134	1235	35	56	761	65	99	59	41	48	75	90
	2040 Volumes	126	1256	64	58	854	55	148	101	75	86	103	132
	Adjusted 2040 Volumes	134	1256	64	58	854	65	148	101	75	86	103	132
5	2020 Counts	5	3	3	11	0	10	9	177	3	8	203	10
	2040 Volumes	4	1	6	13	0	12	13	442	5	6	224	8
	Adjusted 2040 Volumes	5	3	6	13	0	12	13	442	5	8	224	10
6	2020 Counts	59	165	30	6	74	5	5	81	74	61	128	19
	2040 Volumes	75	320	59	9	192	7	14	154	265	96	110	25
	Adjusted 2040 Volumes	75	320	59	9	192	7	14	154	265	96	128	25
7	2020 Counts	0	208	39	22	177	0	0	0	0	37	0	37
	2040 Volumes	0	299	0	0	239	0	0	0	0	0	0	97
	Adjusted 2040 Volumes	0	299	39	22	239	0	0	0	0	37	0	97
8	2020 Counts	9	8	10	6	12	26	5	110	6	8	172	9
	2040 Volumes	10	10	39	34	12	42	4	250	6	10	340	10
	Adjusted 2040 Volumes	10	10	39	34	12	42	5	250	6	10	340	10
9	2020 Counts	0	0	0	26	0	4	1	61	0	0	76	6
	2040 Volumes	0	0	0	36	0	2	2	218	0	0	104	7
	Adjusted 2040 Volumes	0	0	0	36	0	4	2	218	0	0	104	7
10	2020 Counts	5	38	5	14	18	13	1	72	6	3	65	17
	2040 Volumes	7	35	6	8	10	27	8	164	15	2	78	15
	Adjusted 2040 Volumes	7	38	6	14	18	27	8	164	15	3	78	17
11	2020 Counts	372	1158	0	0	1225	1012	0	0	0	339	5	486
	2040 Volumes	386	1196	0	0	1345	998	0	0	0	358	5	456
	Adjusted 2040 Volumes	386	1196	0	0	1345	1012	0	0	0	358	5	486
12	2020 Counts	0	1001	385	485	1080	0	530	4	441	0	0	0
	2040 Volumes	0	1494	383	487	1257	0	608	3	476	0	0	0
	Adjusted 2040 Volumes	0	1494	385	487	1257	0	608	4	476	0	0	0
13	2020 Counts	5	1205	4	80	1236	190	92	0	32	0	0	99
	2040 Volumes	5	1489	4	80	1476	190	103	0	35	0	0	103

**AM**

	Adjusted 2040 Volumes	5	1489	4	80	1476	190	103	0	35	0	0	103
14	2020 Counts	99	853	12	200	962	126	169	75	54	10	117	188
	2040 Volumes	66	956	10	314	988	174	205	63	31	8	104	270
	Adjusted 2040 Volumes	99	956	12	314	988	174	205	75	54	10	117	270
15	2020 Counts	69	780	18	62	871	53	63	43	47	10	65	38
	2040 Volumes	68	767	25	48	875	53	121	63	91	10	65	38
	Adjusted 2040 Volumes	69	780	25	62	875	53	121	63	91	10	65	38
16	2020 Counts	15	745	32	92	811	23	52	34	22	30	37	49
	2040 Volumes	34	759	107	47	1069	15	59	68	116	80	44	28
	Adjusted 2040 Volumes	34	759	107	92	1069	23	59	68	116	80	44	49
17	2020 Counts	23	755	1	19	805	19	79	29	25	21	16	18
	2040 Volumes	28	769	1	19	1167	28	109	30	35	24	19	20
	Adjusted 2040 Volumes	28	769	1	19	1167	28	109	30	35	24	19	20
18	2020 Counts	38	677	7	14	808	23	34	12	75	43	11	12
	2040 Volumes	172	713	13	27	1316	100	27	18	97	71	49	15
	Adjusted 2040 Volumes	172	713	13	27	1316	100	34	18	97	71	49	15
19	2020 Counts	4	630	97	129	806	5	8	0	9	141	1	45
	2040 Volumes	3	640	171	295	1162	6	7	0	10	342	1	88
	Adjusted 2040 Volumes	4	640	171	295	1162	6	8	0	10	342	1	88
20	2020 Counts	41	267	353	466	380	26	28	65	26	211	99	481
	2040 Volumes	66	355	417	560	782	43	34	70	49	315	117	480
	Adjusted 2040 Volumes	66	355	417	560	782	43	34	70	49	315	117	481
21	2020 Counts	9	5	5	163	17	227	359	505	21	5	551	221
	2040 Volumes	9	5	6	280	22	383	416	573	18	4	525	217
	Adjusted 2040 Volumes	9	5	6	280	22	383	416	573	21	5	551	221
22	2020 Counts	57	773	203	30	630	0	4	30	82	101	17	21
	2040 Volumes	58	772	193	38	786	0	4	31	79	97	17	22
	Adjusted 2040 Volumes	58	773	203	38	786	0	4	31	82	101	17	22
23	2020 Counts	30	1004	197	41	760	0	0	0	9	197	5	43
	2040 Volumes	30	1011	196	42	904	0	0	0	9	215	5	40
	Adjusted 2040 Volumes	30	1011	197	42	904	0	0	0	9	215	5	43
24	2020 Counts	153	260	0	0	831	137	0	0	0	101	0	969
	2040 Volumes	158	278	0	0	1003	144	0	0	0	116	0	979
	Adjusted 2040 Volumes	158	278	0	0	1003	144	0	0	0	116	0	979
25	2020 Counts	0	301	127	664	265		112	3	337	0	0	0
	2040 Volumes	0	286	176	642	417	0	179	4	705	0	0	0
	Adjusted 2040 Volumes	0	301	176	664	417	0	179	4	705	0	0	0

**PM**

Intersection	Scenario	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	2020 Counts	166	1262	183	675	1117	134	308	523	80	181	307	707
	2040 Volumes	800	2874	1153	561	1354	698	834	0	558	523	0	533
	Adjusted 2040 Volumes	800	2874	1153	675	1354	698	834	523	558	523	307	707
2	2020 Counts	0	1569	13	48	1343	0	0	0	0	9	0	51
	2040 Volumes	162	3151	386	1557	1280	145	1200	1714	129	185	300	1746
	Adjusted 2040 Volumes	162	3151	386	1557	1343	145	1200	1714	129	185	300	1746
3	2020 Counts	163	1298	43	104	1127	97	155	135	124	99	118	98
	2040 Volumes	0	2874	25	59	1592	0	0	0	0	15	0	88
	Adjusted 2040 Volumes	163	2874	43	104	1592	97	155	135	124	99	118	98
4	2020 Counts	1	9	6	25	7	9	11	360	6	9	305	17
	2040 Volumes	237	2460	480	534	1242	66	218	1123	221	218	156	169
	Adjusted 2040 Volumes	237	2460	480	534	1242	66	218	1123	221	218	305	169
5	2020 Counts	99	269	66	17	222	10	8	225	162	39	195	29
	2040 Volumes	1	8	16	58	7	34	23	2287	13	2	394	6
	Adjusted 2040 Volumes	99	269	66	58	222	34	23	2287	162	39	394	29
6	2020 Counts	0	352	154	59	326	0	0	0	0	40	0	46
	2040 Volumes	143	897	165	51	704	17	75	1555	1212	58	161	56
	Adjusted 2040 Volumes	143	897	165	59	704	17	75	1555	1212	58	161	56
7	2020 Counts	11	8	11	13	16	21	16	269	13	13	249	22
	2040 Volumes	0	784	99	1030	655	0	0	0	0	10	0	328
	Adjusted 2040 Volumes	11	784	99	1030	655	21	16	269	13	13	249	328
8	2020 Counts	0	0	0	13	0	8	10	210	0	0	93	9
	2040 Volumes	80	0	0	1	1	98	141	734	47	0	780	0
	Adjusted 2040 Volumes	80	0	0	13	1	98	141	734	47	0	780	9
9	2020 Counts	13	31	10	38	50	15	29	180	20	8	92	52
	2040 Volumes	0	0	0	23	0	6	13	1245	0	0	343	14
	Adjusted 2040 Volumes	13	31	10	38	50	15	29	1245	20	8	343	52
10	2020 Counts	330	1348	0	0	1164	637	0	0	0	346	5	566
	2040 Volumes	59	13	6	21	61	70	85	673	169	7	304	15
	Adjusted 2040 Volumes	330	1348	6	21	1164	637	85	673	169	346	304	566
11	2020 Counts	0	1162	352	397	1083	0	582	2	237	0	0	0
	2040 Volumes	498	2952	0	0	1459	581	0	0	0	585	7	1013
	Adjusted 2040 Volumes	498	2952	352	397	1459	581	582	2	237	585	7	1013
12	2020 Counts	1	1316	2	39	1056	233	177	4	16	1	2	118
	2040 Volumes	0	2436	524	489	1591	0	576	1	198	0	0	0
	Adjusted 2040 Volumes	1	2436	524	489	1591	233	576	4	198	1	2	118
13	2020 Counts	82	893	26	144	801	108	273	307	124	25	161	169
	2040 Volumes	1	2673	2	32	1568	234	795	11	83	1	1	121

**PM**

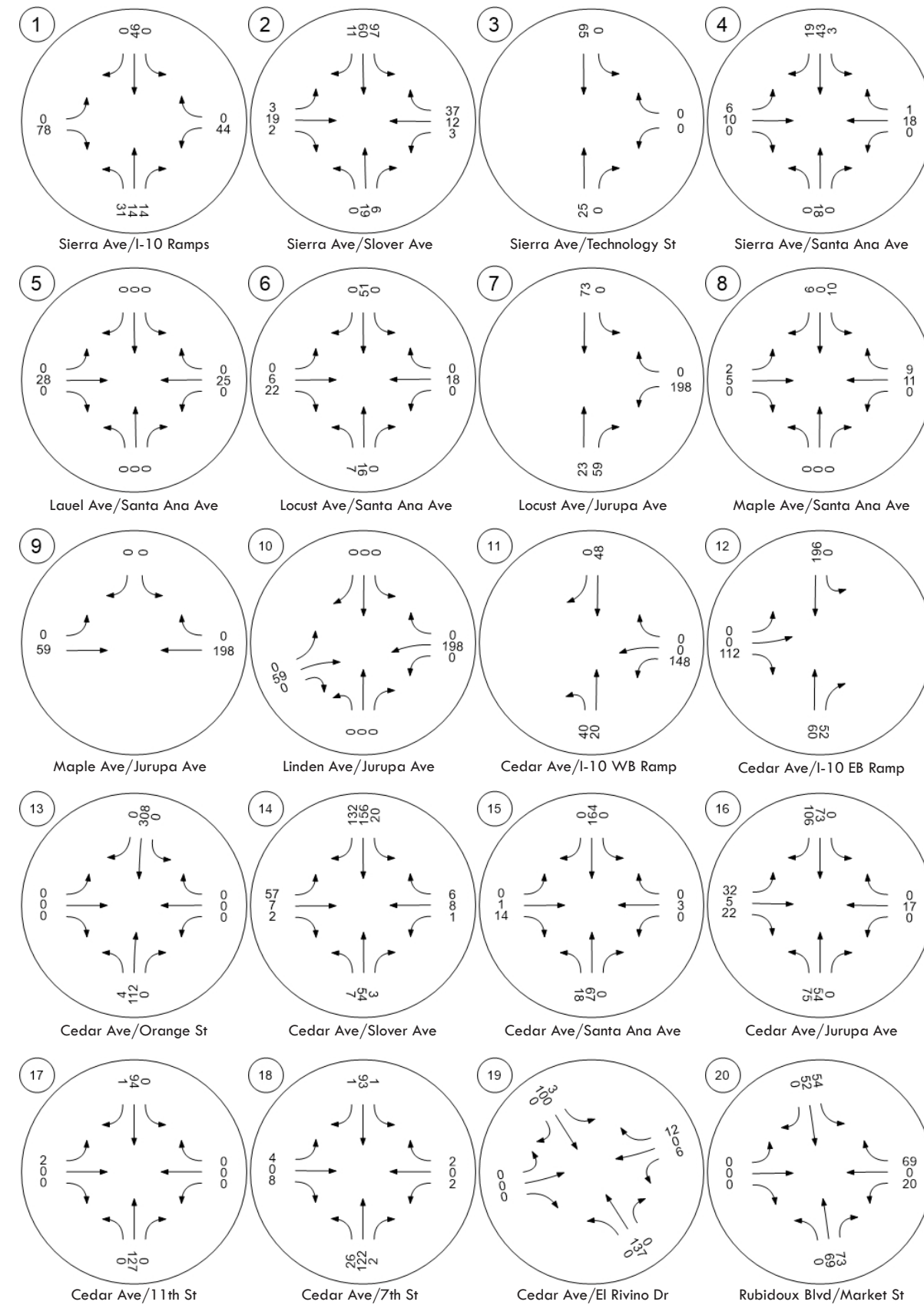
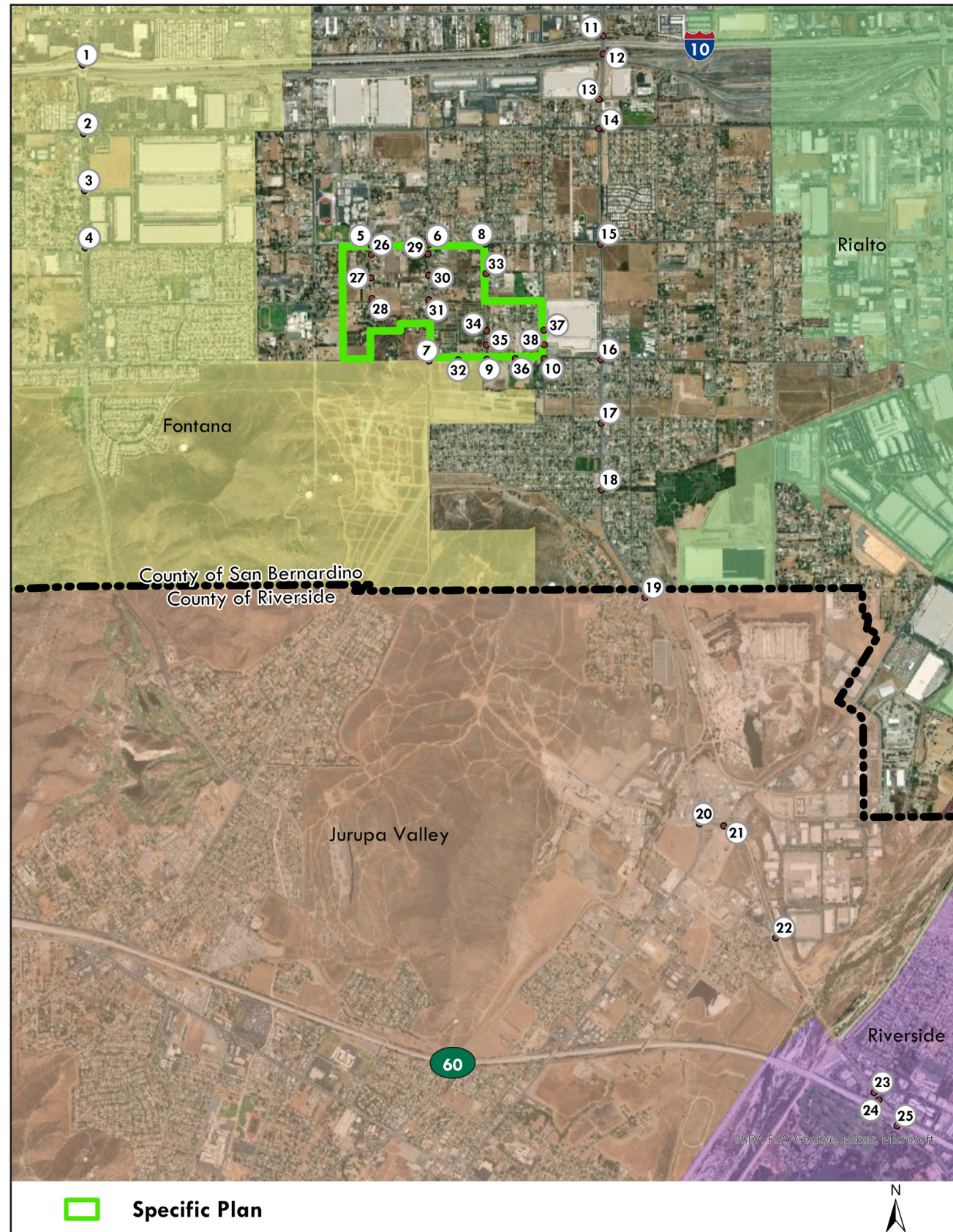
	Adjusted 2040 Volumes	82	2673	26	144	1568	234	795	307	124	25	161	169
14	2020 Counts	110	927	32	76	759	47	75	135	93	26	112	56
	2040 Volumes	75	1800	66	575	966	151	396	571	70	27	204	478
	Adjusted 2040 Volumes	110	1800	66	575	966	151	396	571	93	27	204	478
15	2020 Counts	58	898	37	101	778	47	39	89	46	45	49	76
	2040 Volumes	139	1248	16	47	779	78	598	375	446	17	131	68
	Adjusted 2040 Volumes	139	1248	37	101	779	78	598	375	446	45	131	76
16	2020 Counts	51	941	9	39	767	27	63	23	33	18	21	15
	2040 Volumes	282	1356	249	135	1241	45	32	329	201	125	81	40
	Adjusted 2040 Volumes	282	1356	249	135	1241	45	63	329	201	125	81	40
17	2020 Counts	105	845	14	52	766	14	45	21	284	29	10	17
	2040 Volumes	549	1796	20	73	1316	239	168	74	96	8	45	5
	Adjusted 2040 Volumes	549	1796	20	73	1316	239	168	74	284	29	45	17
18	2020 Counts	9	822	124	153	826	9	13	7	5	219	9	181
	2040 Volumes	630	1853	13	52	1323	78	109	22	566	21	22	16
	Adjusted 2040 Volumes	630	1853	124	153	1323	78	109	22	566	219	22	181
19	2020 Counts	16	338	396	534	468	23	29	50	15	229	84	525
	2040 Volumes	6	1556	399	408	941	5	10	9	2	880	17	1001
	Adjusted 2040 Volumes	16	1556	399	534	941	23	29	50	15	880	84	1001
20	2020 Counts	13	14	7	181	11	293	339	499	9	8	556	266
	2040 Volumes	68	1187	807	651	1113	58	40	40	23	401	158	806
	Adjusted 2040 Volumes	68	1187	807	651	1113	293	339	499	23	401	556	806
21	2020 Counts	58	785	82	9	691	4	7	46	261	282	69	52
	2040 Volumes	13	16	6	460	15	828	565	641	7	6	721	401
	Adjusted 2040 Volumes	58	785	82	460	691	828	565	641	261	282	721	401
22	2020 Counts	21	771	203	97	1043	0	0	12	69	193	5	45
	2040 Volumes	80	1117	100	10	1283	3	4	27	329	368	49	37
	Adjusted 2040 Volumes	80	1117	203	97	1283	3	4	27	329	368	49	45
23	2020 Counts	202	284	0	0	1131	170	0	0	0	71	3	708
	2040 Volumes	34	1045	224	81	1708	0	0	7	98	202	5	30
	Adjusted 2040 Volumes	202	1045	224	81	1708	170	0	7	98	202	5	708
24	2020 Counts	0	456	63	512	574	0	120	2	752	0	0	0
	2040 Volumes	213	659	0	0	1851	160	0	0	0	58	2	739
	Adjusted 2040 Volumes	213	659	63	512	1851	160	120	2	752	58	2	739
25	2020 Counts	0	0	0	0	0	0	0	0	0	0	0	0
	2040 Volumes	0	976	163	413	1954	0	36	1	1165	0	0	0
	Adjusted 2040 Volumes	0	976	163	413	1954	0	36	1	1165	0	0	0

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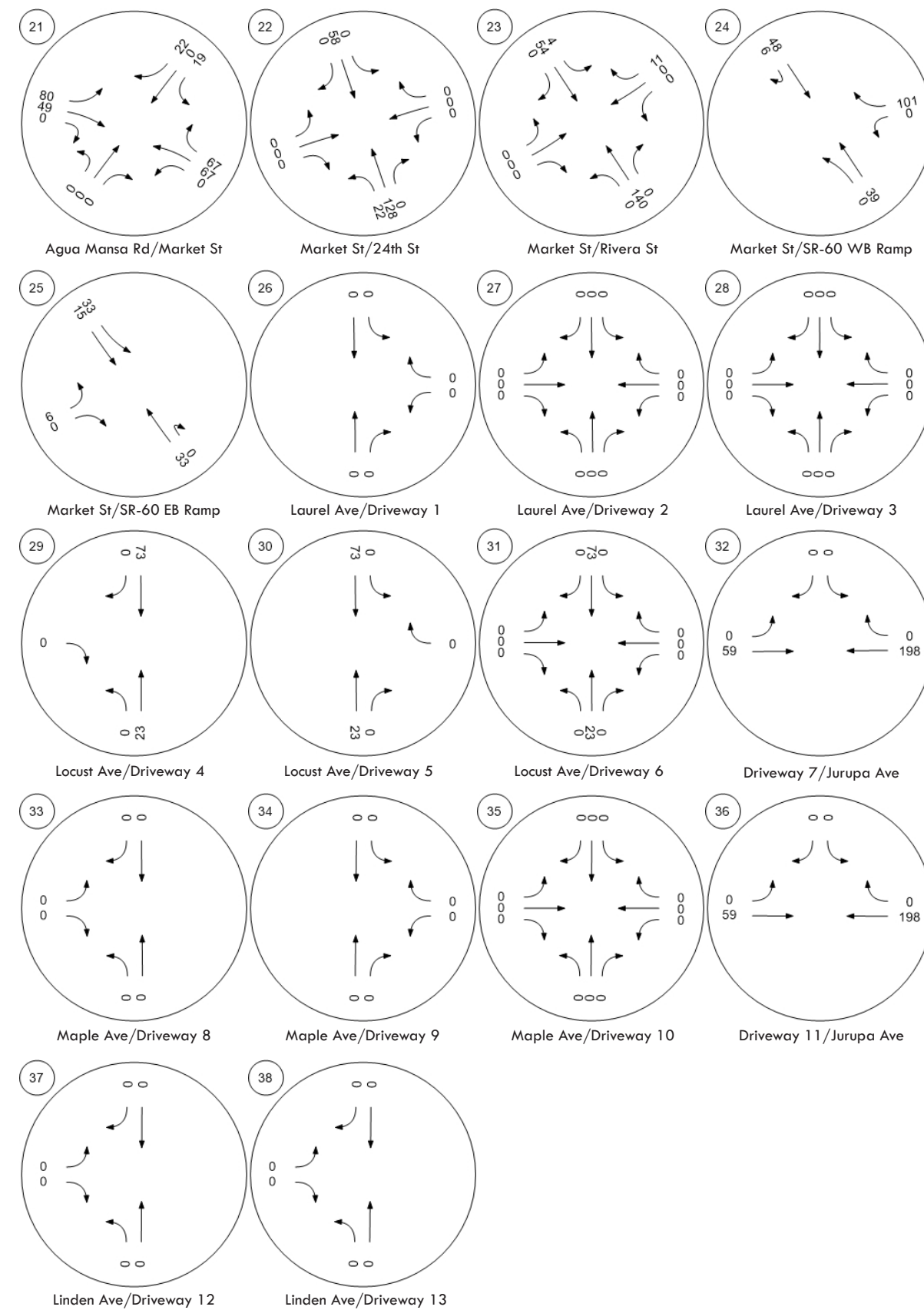
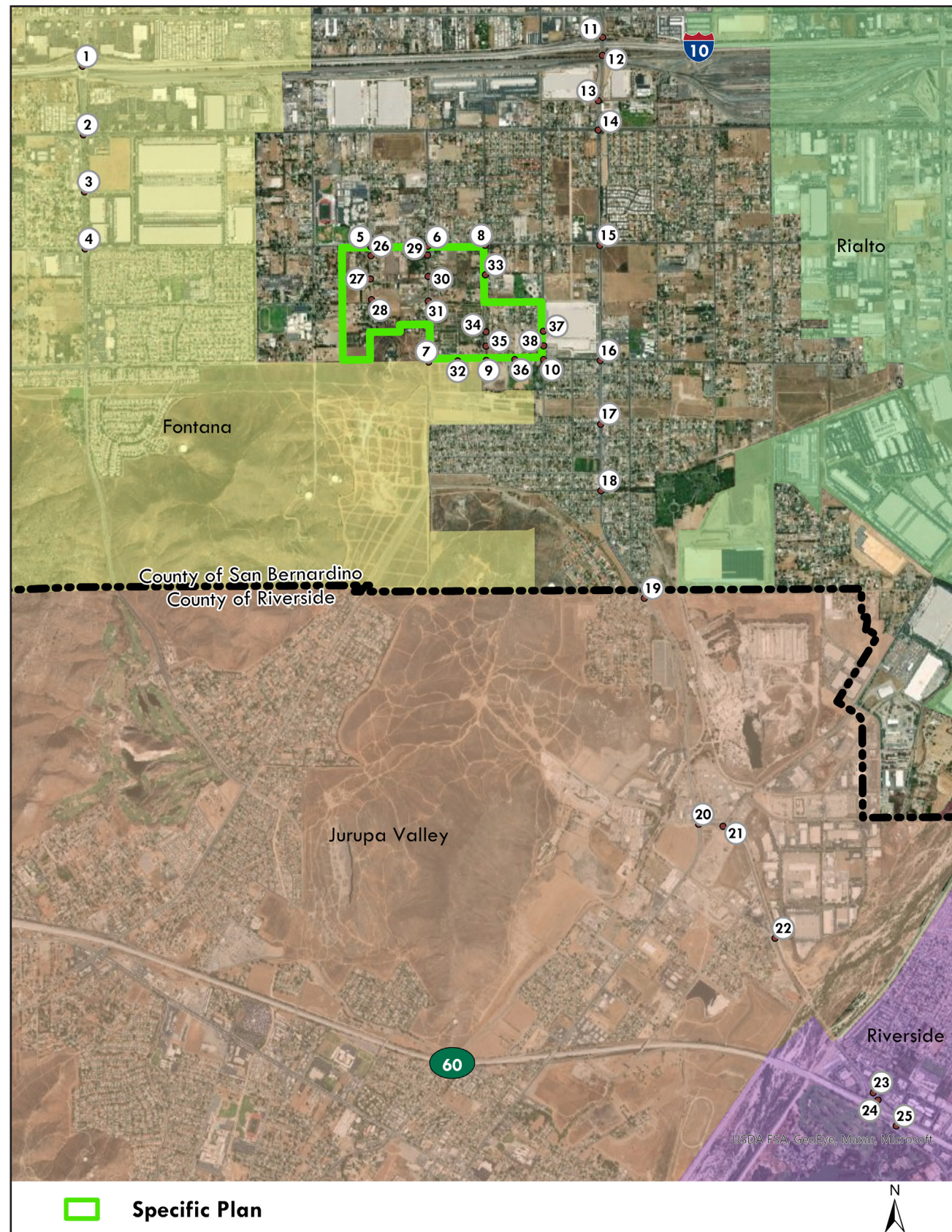
*APPENDIX E – ADDITIONAL FIGURES*

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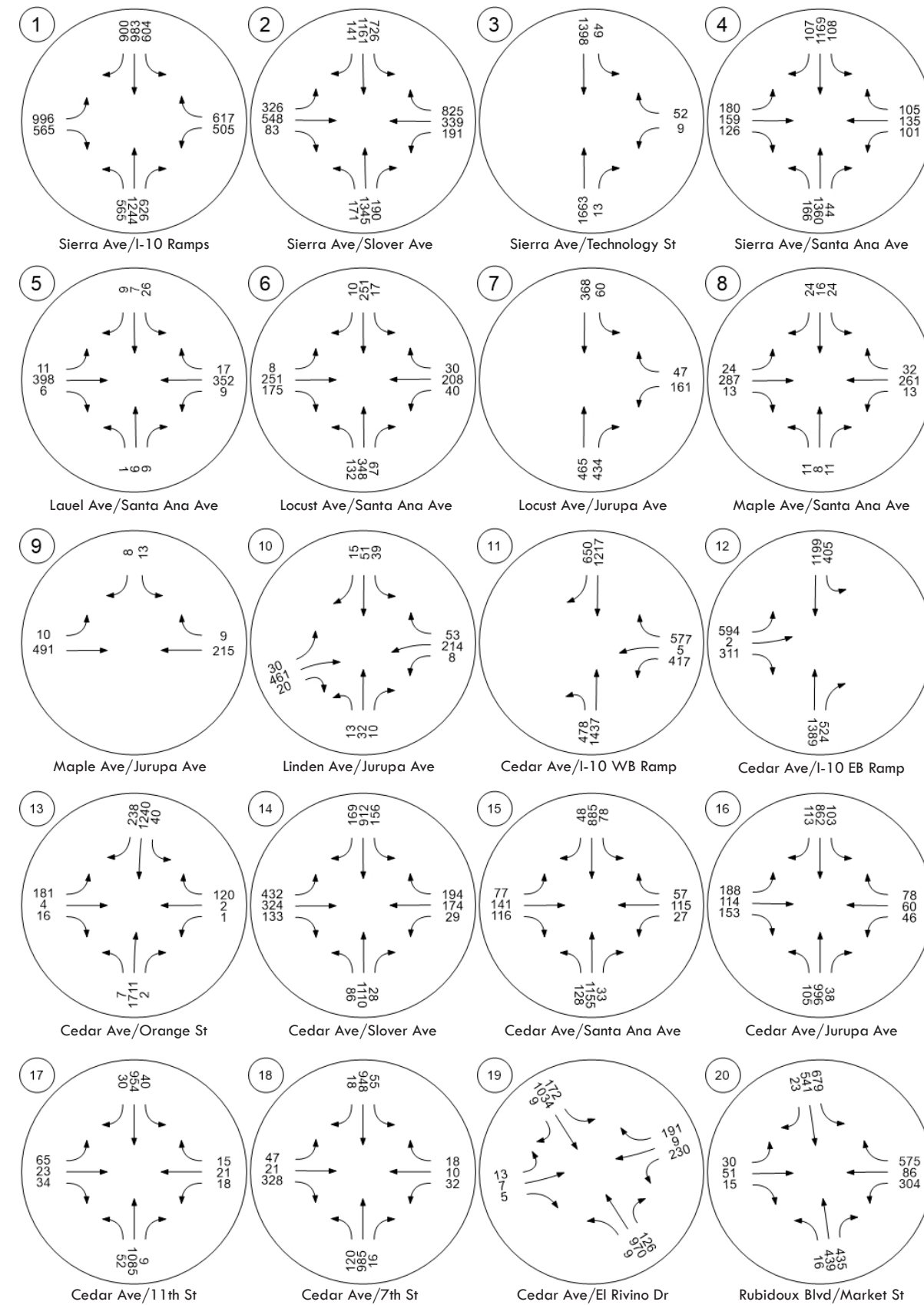
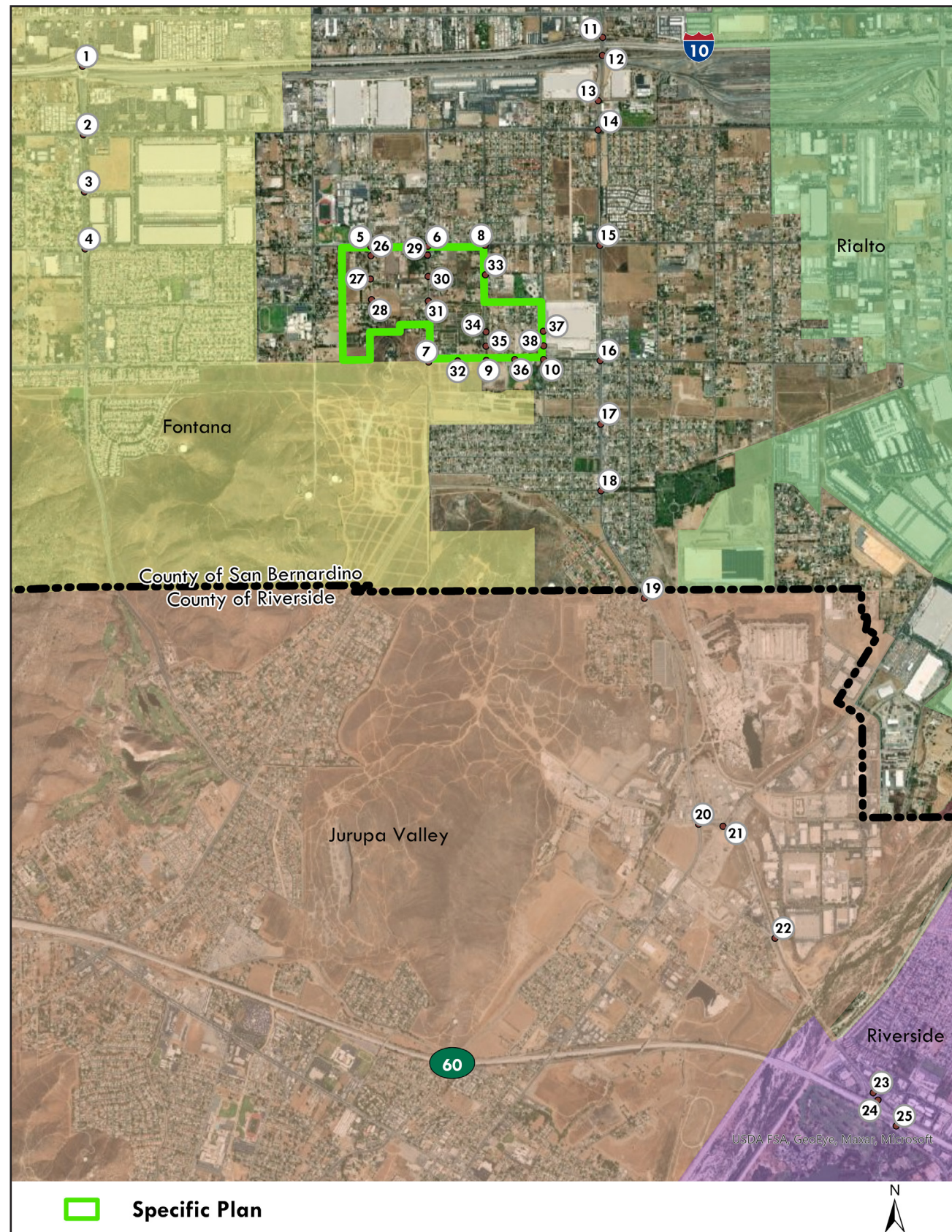
Cumulative AM Assignment (A)



Cumulative AM Assignment (B)

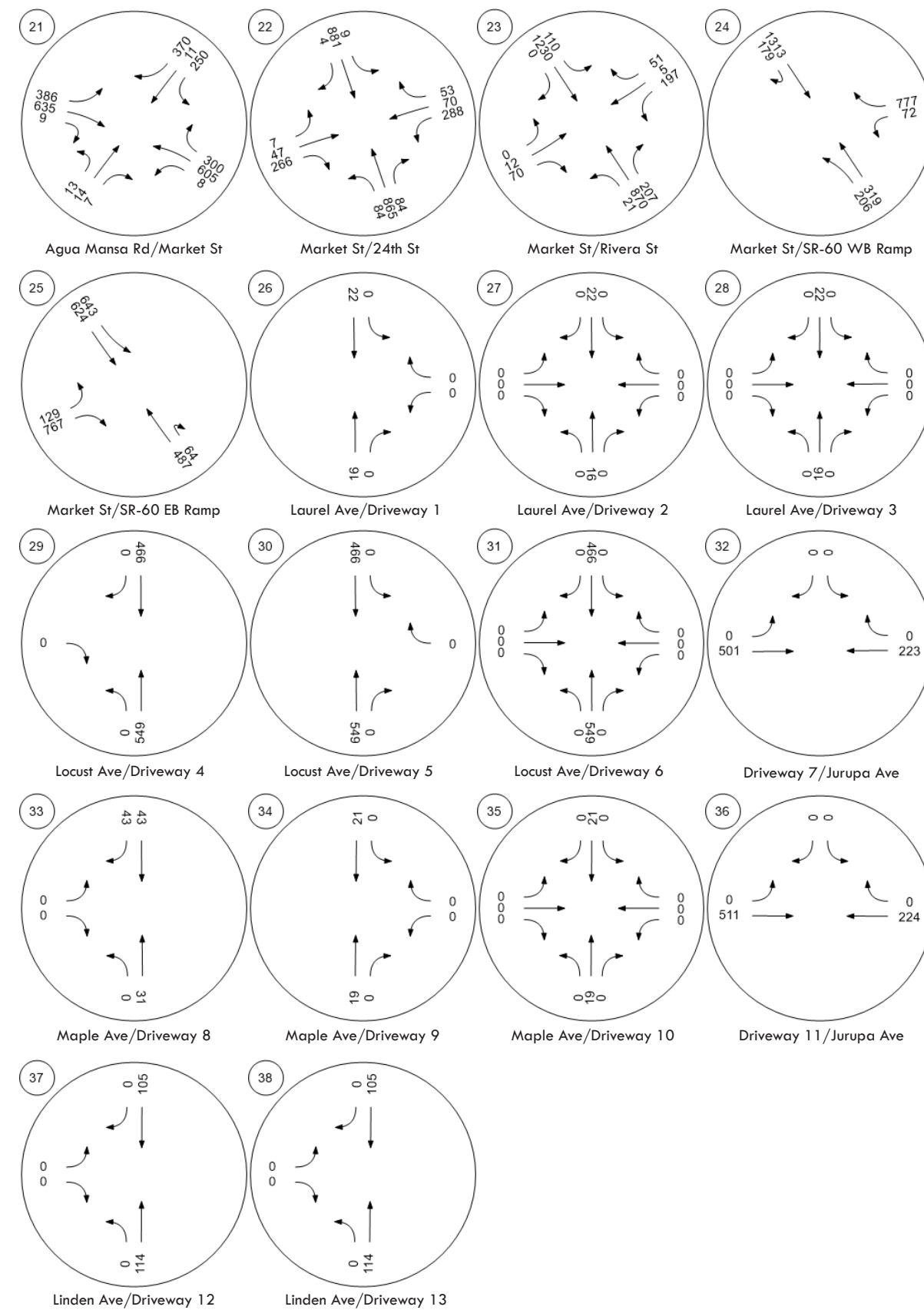
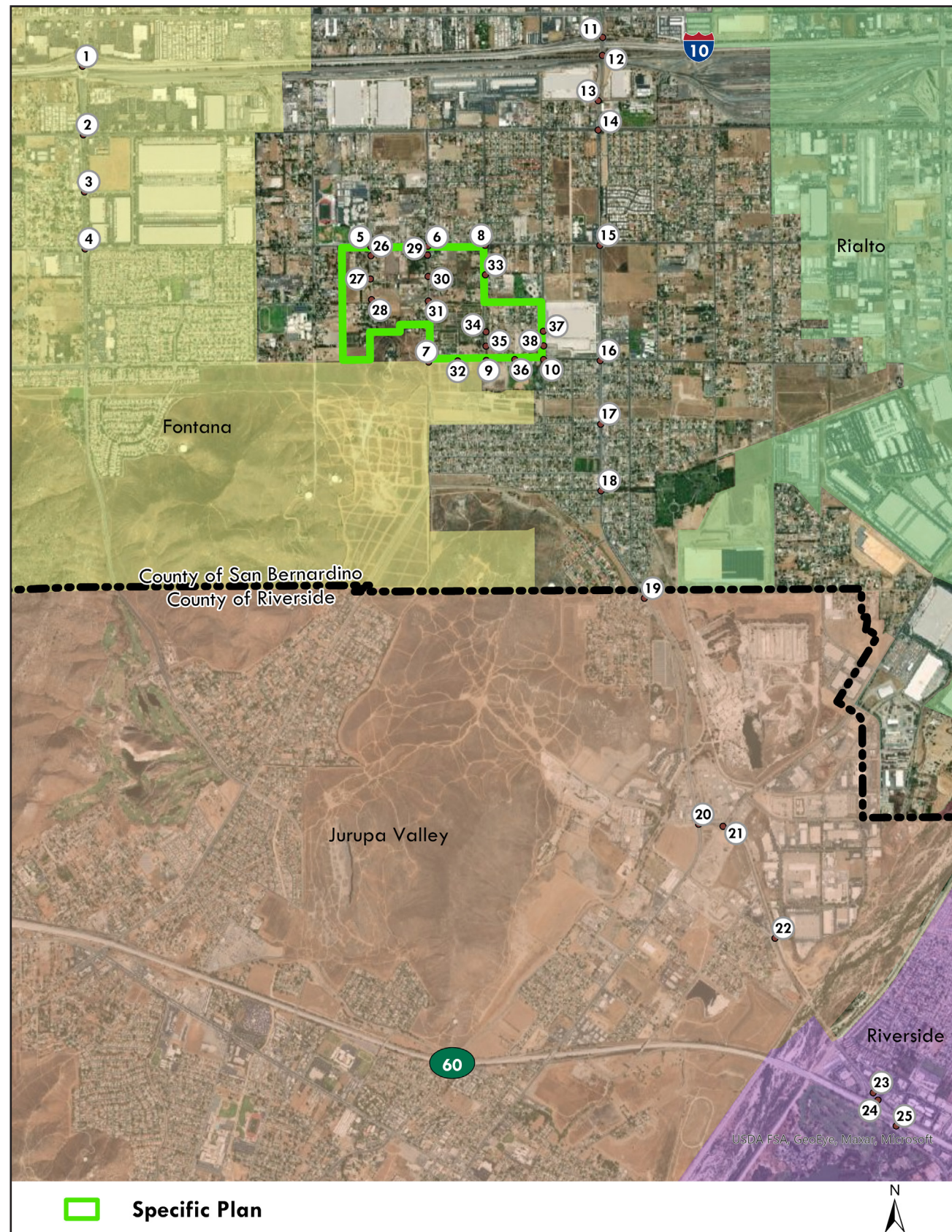


Cumulative PM Assignment (A)

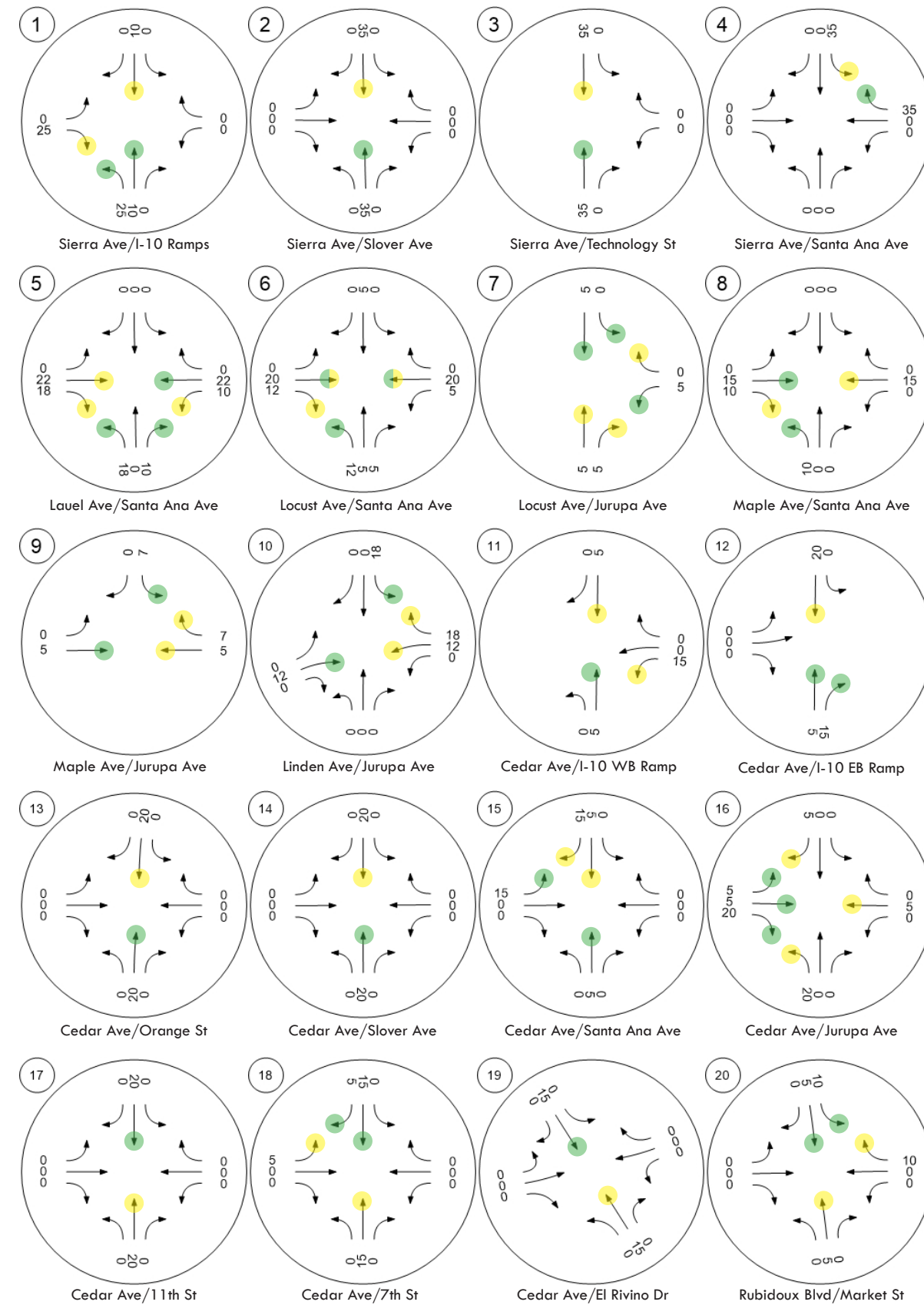
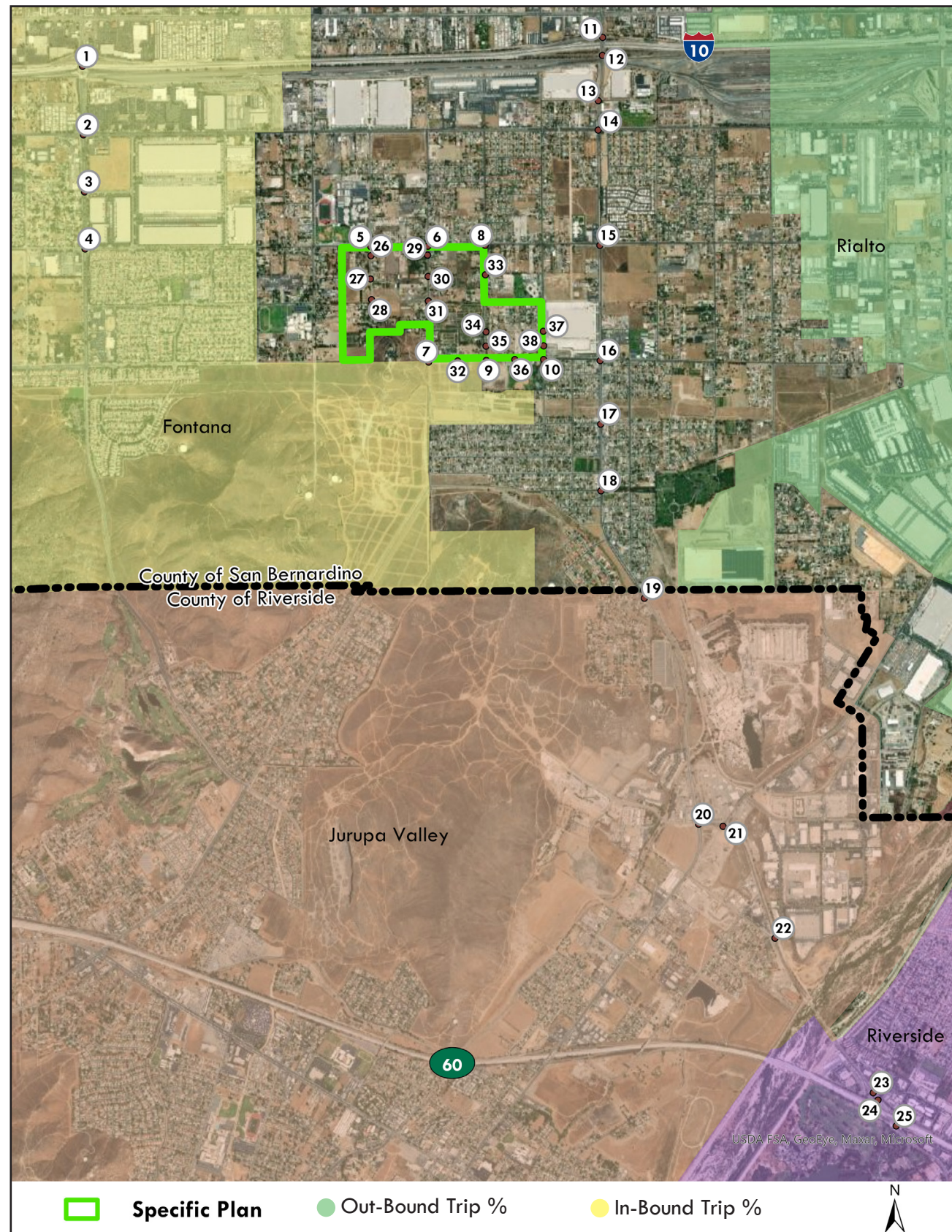




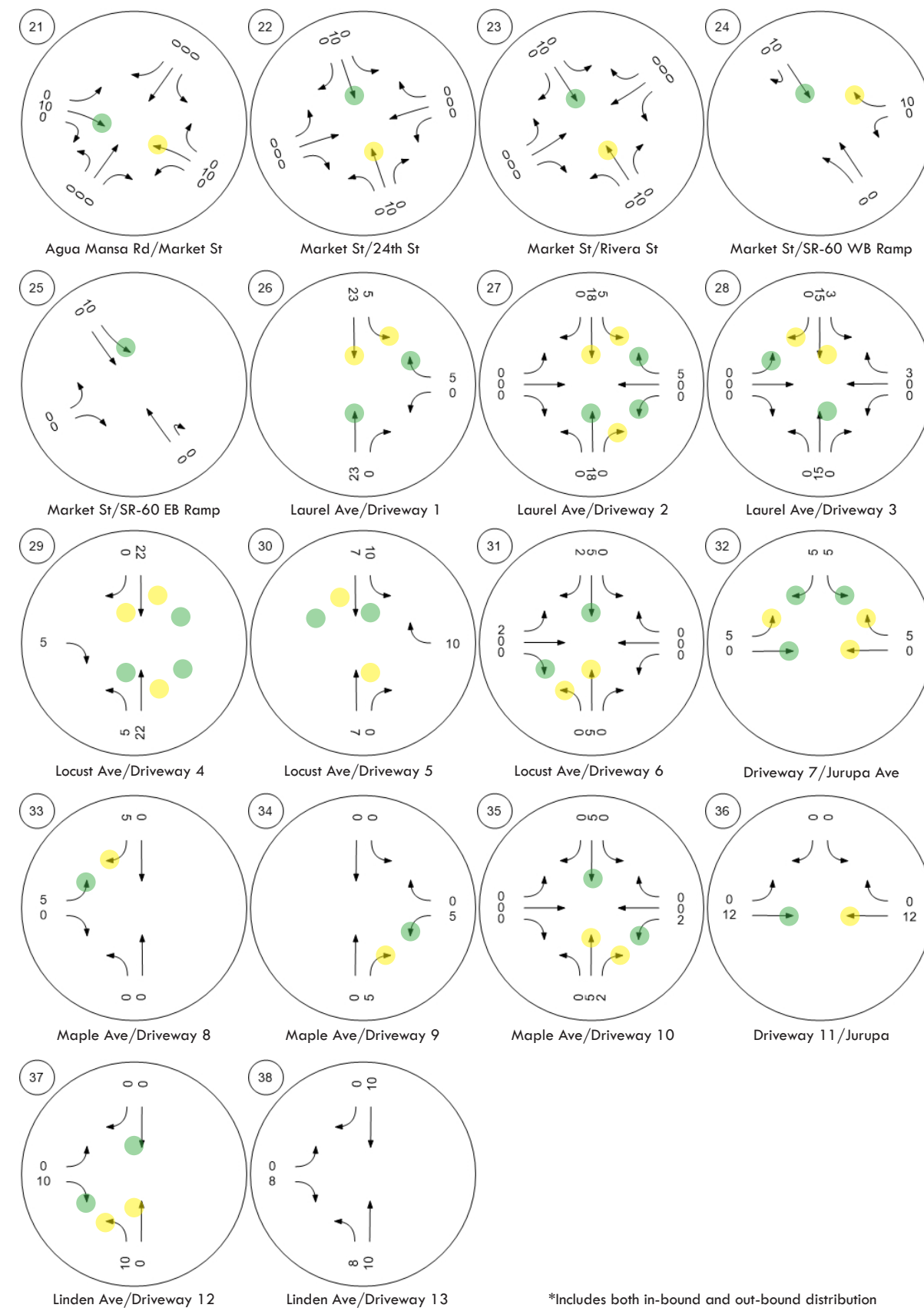
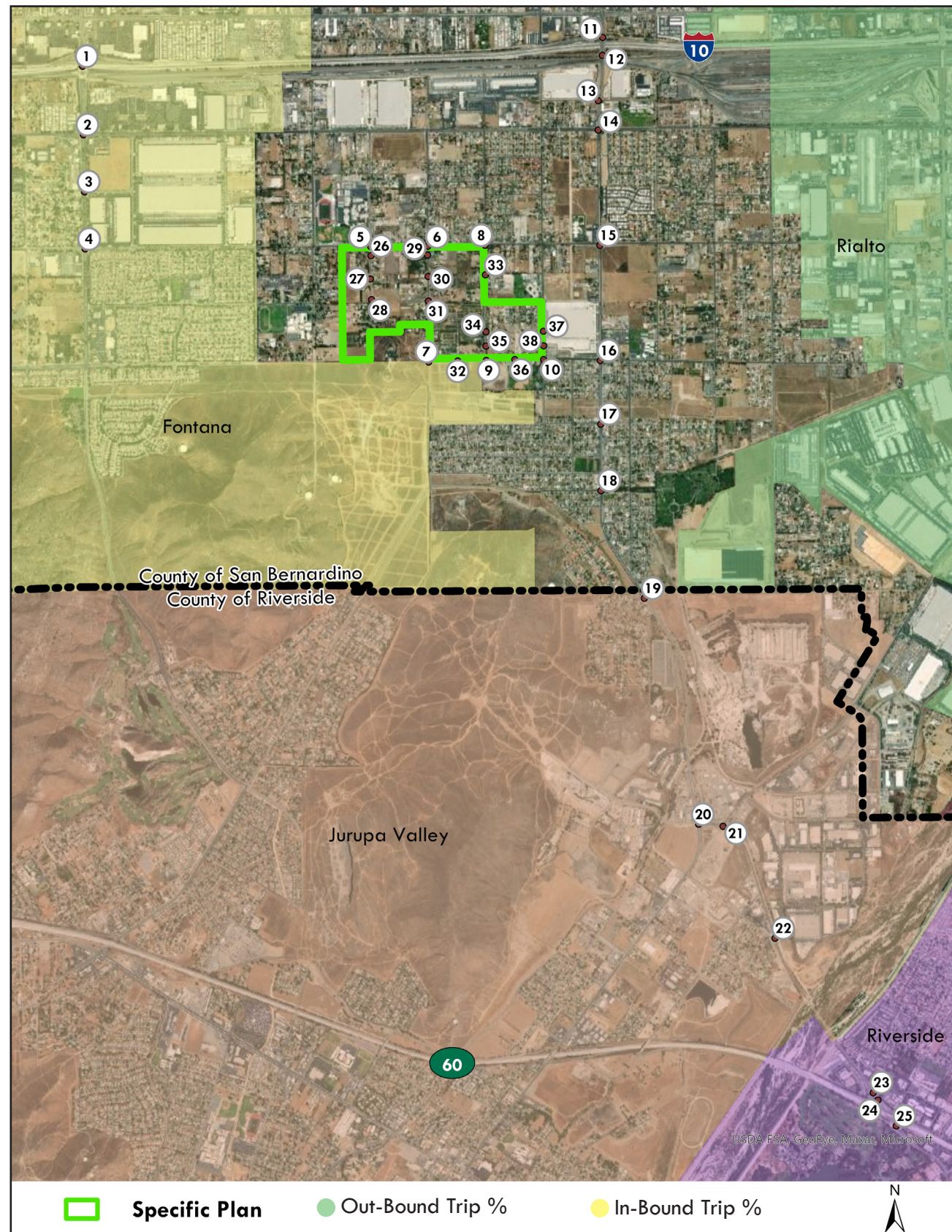
Cumulative PM Assignment (B)



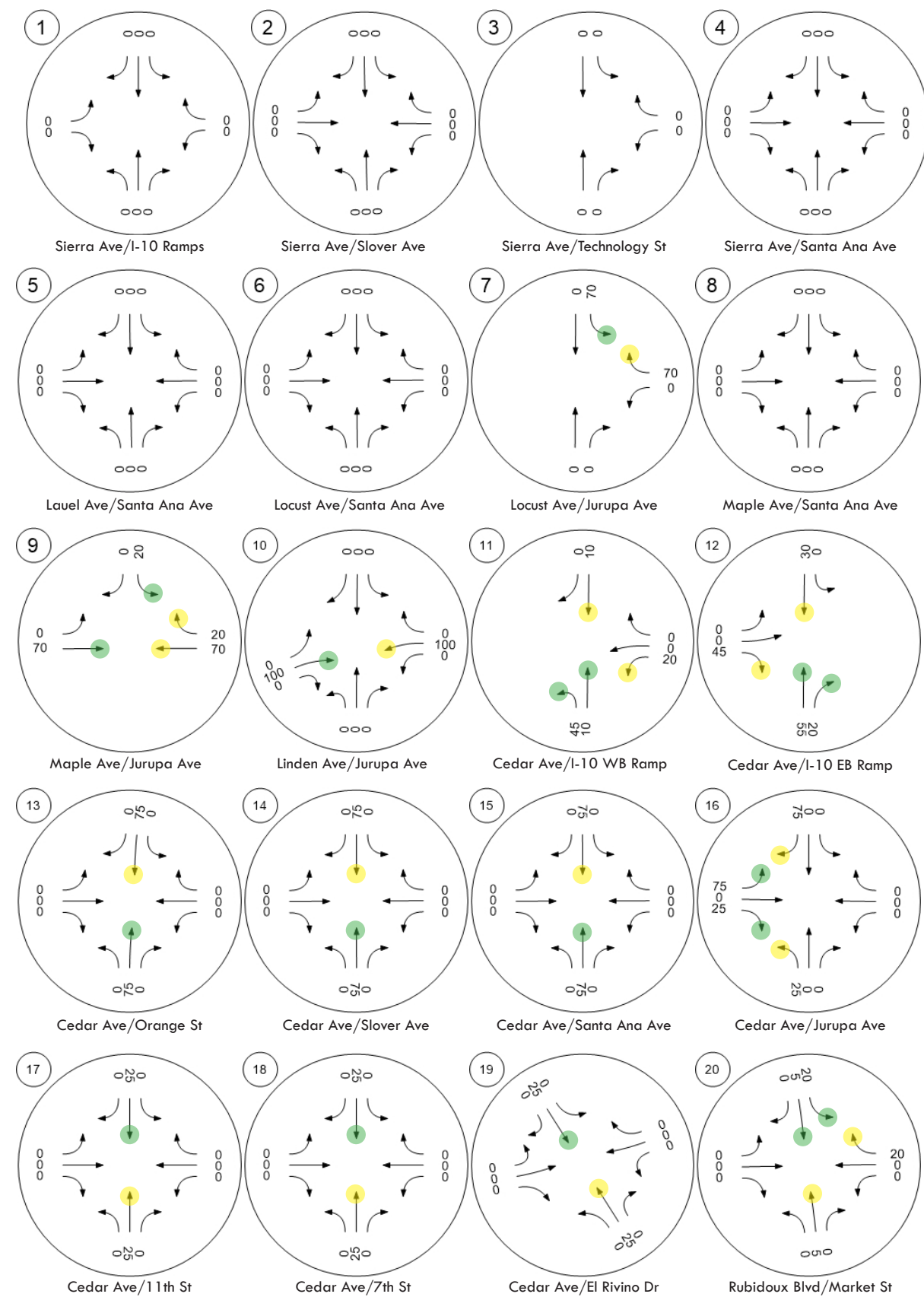
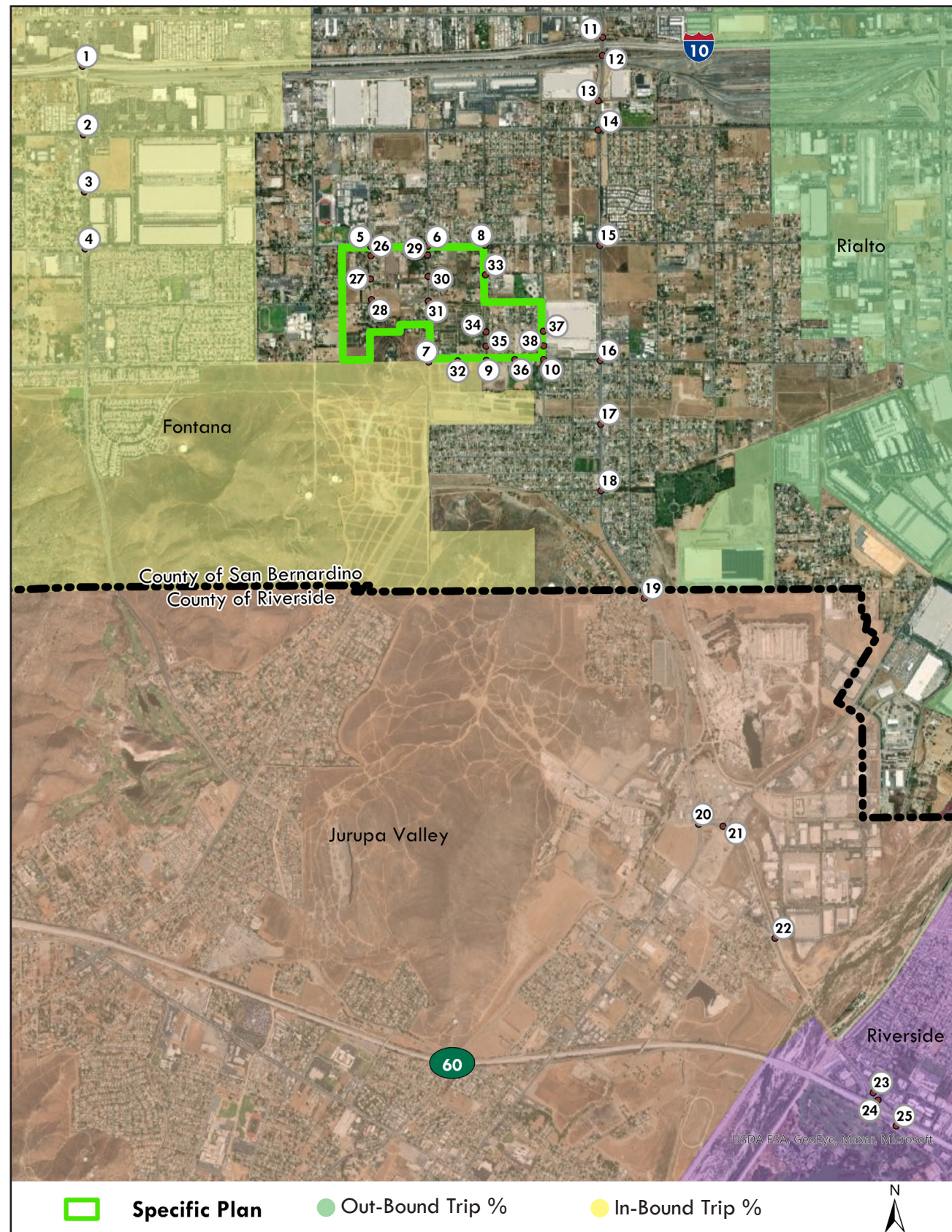
Automobile Distribution (A)



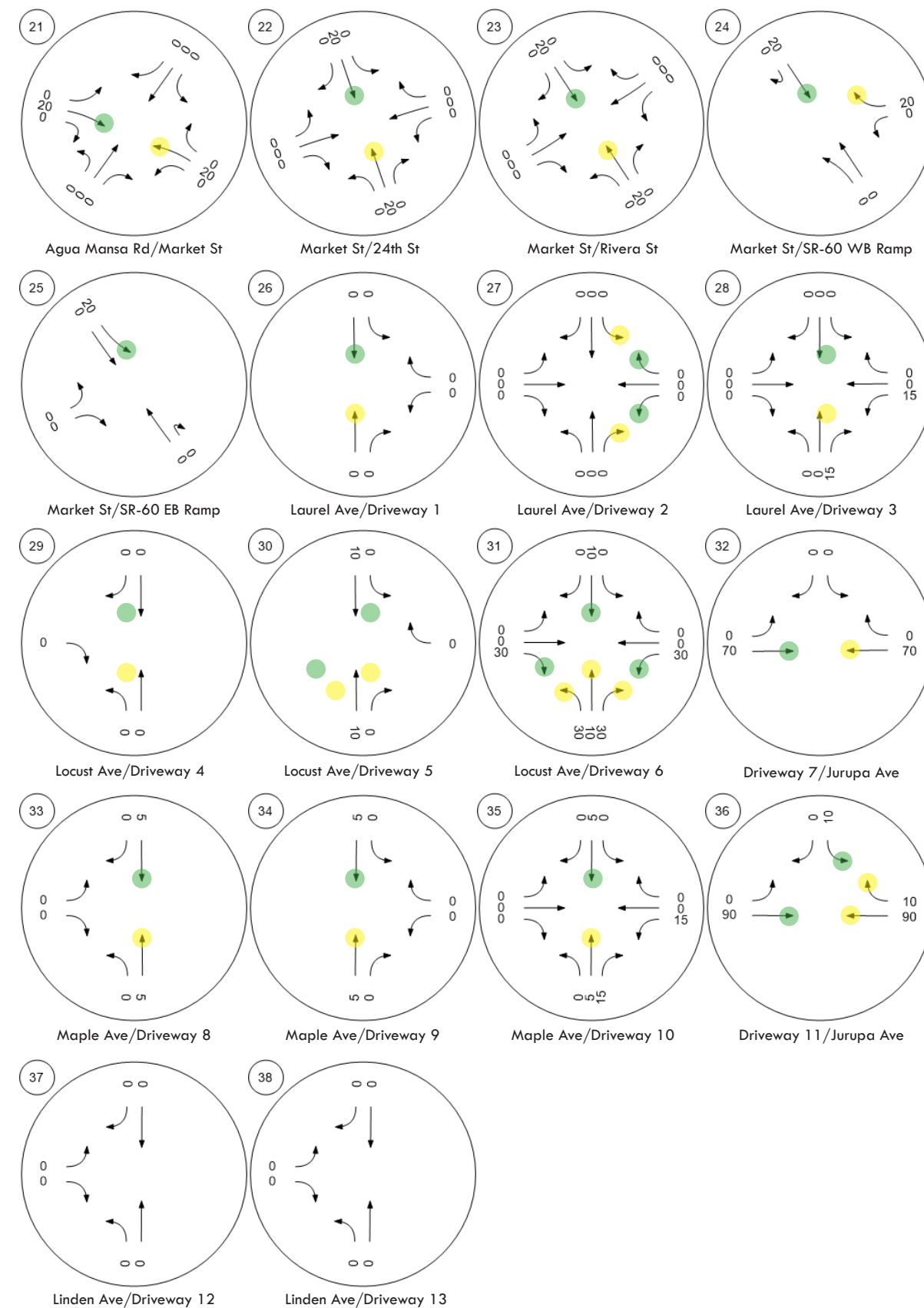
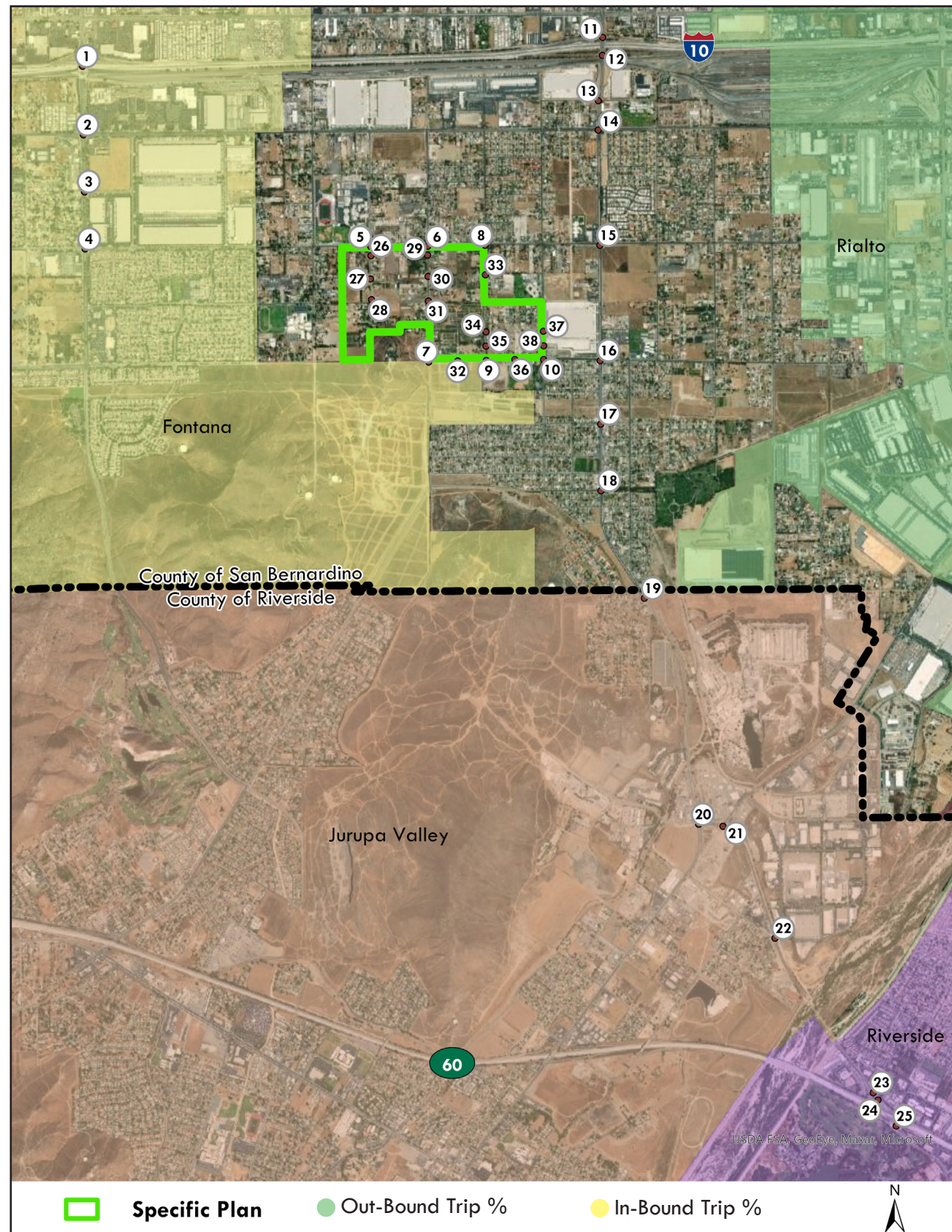
Automobile Distribution (B)



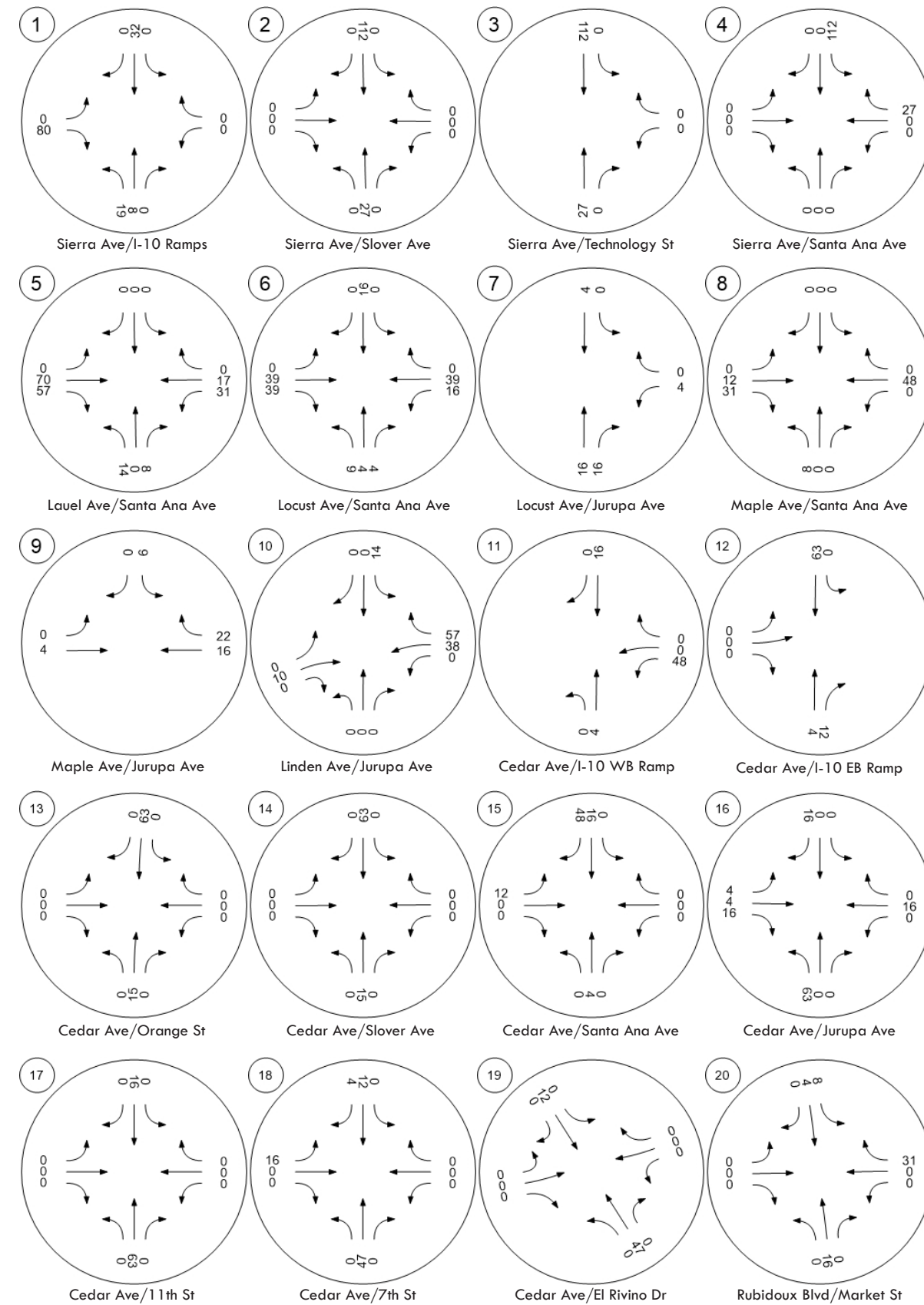
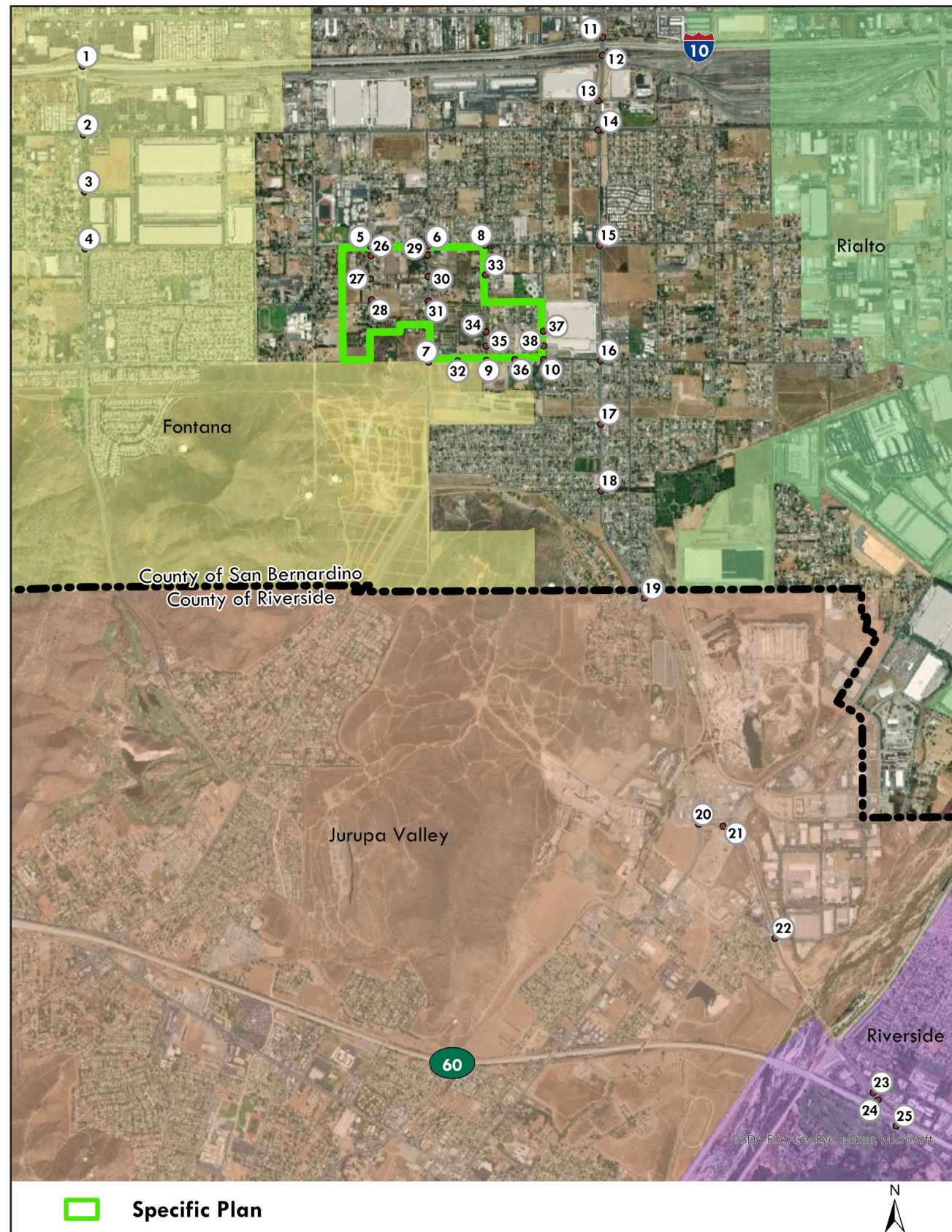
Truck Distribution (A)



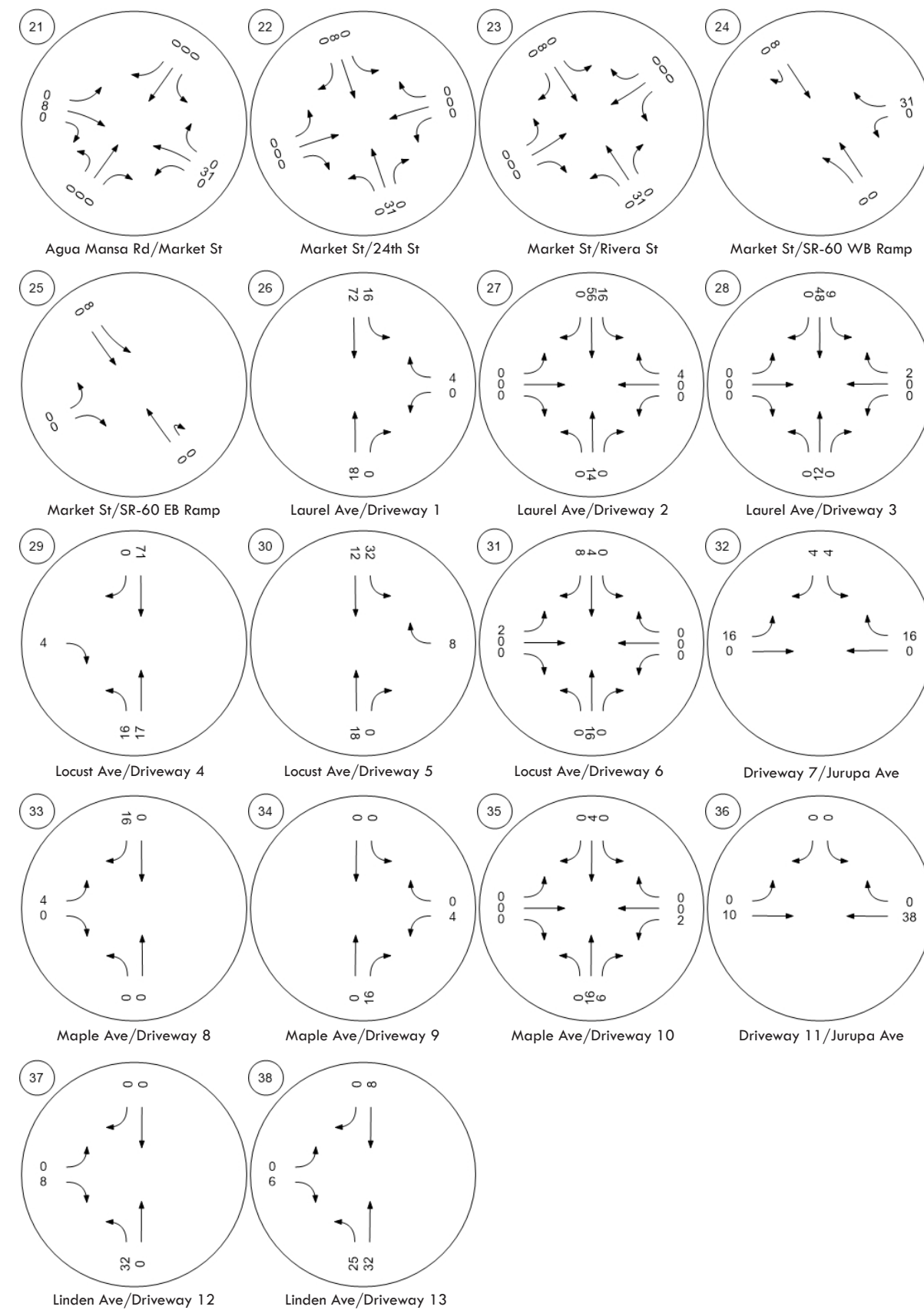
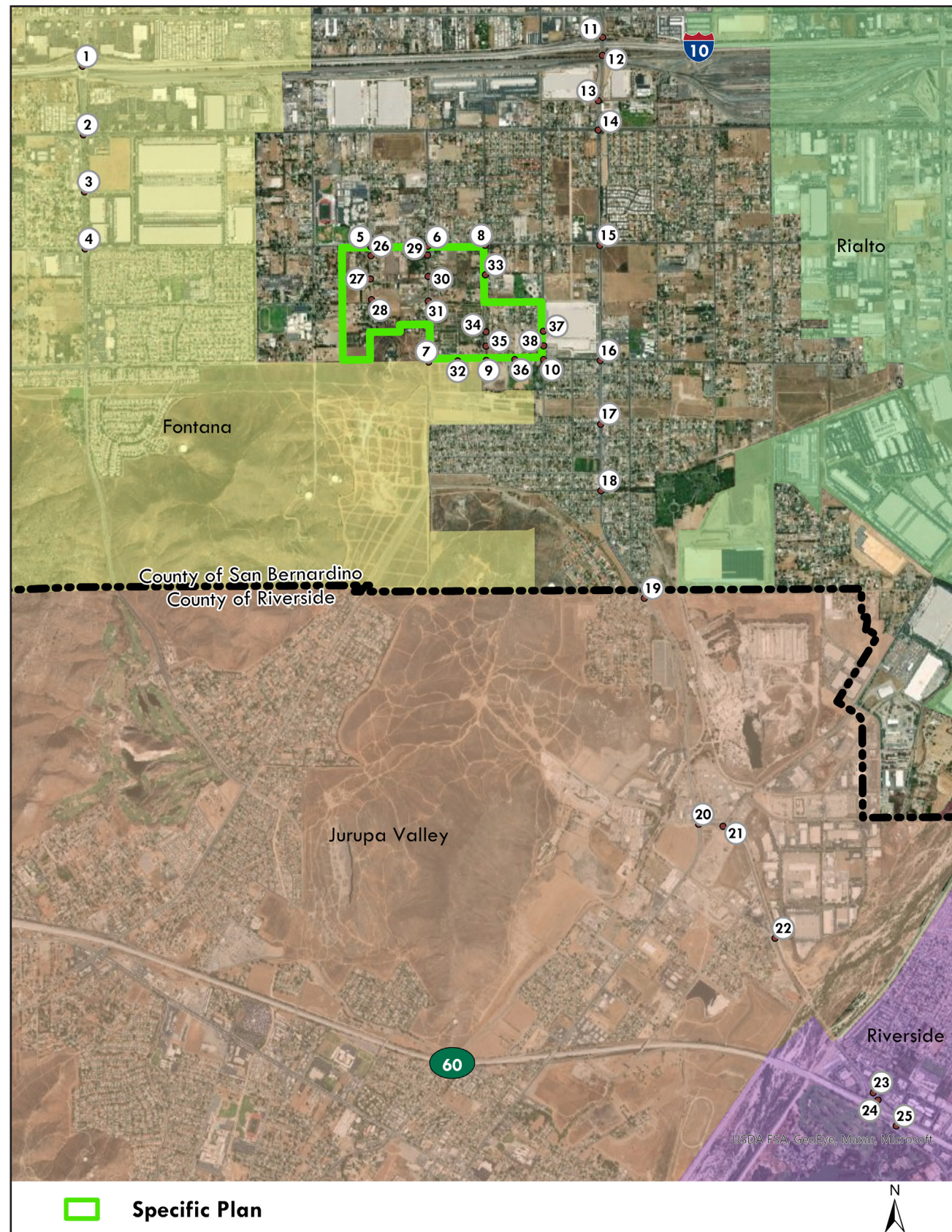
Truck Distribution (B)



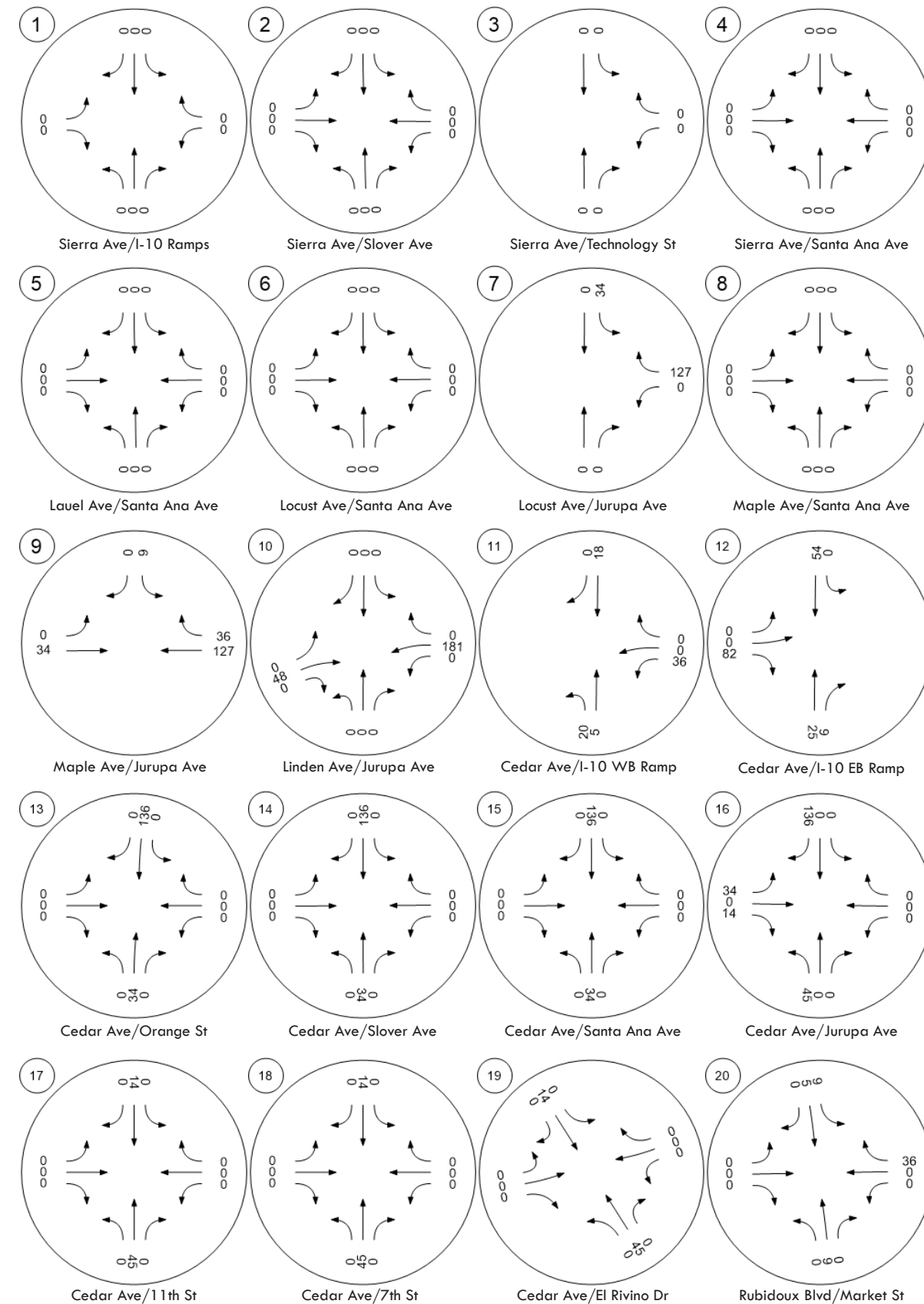
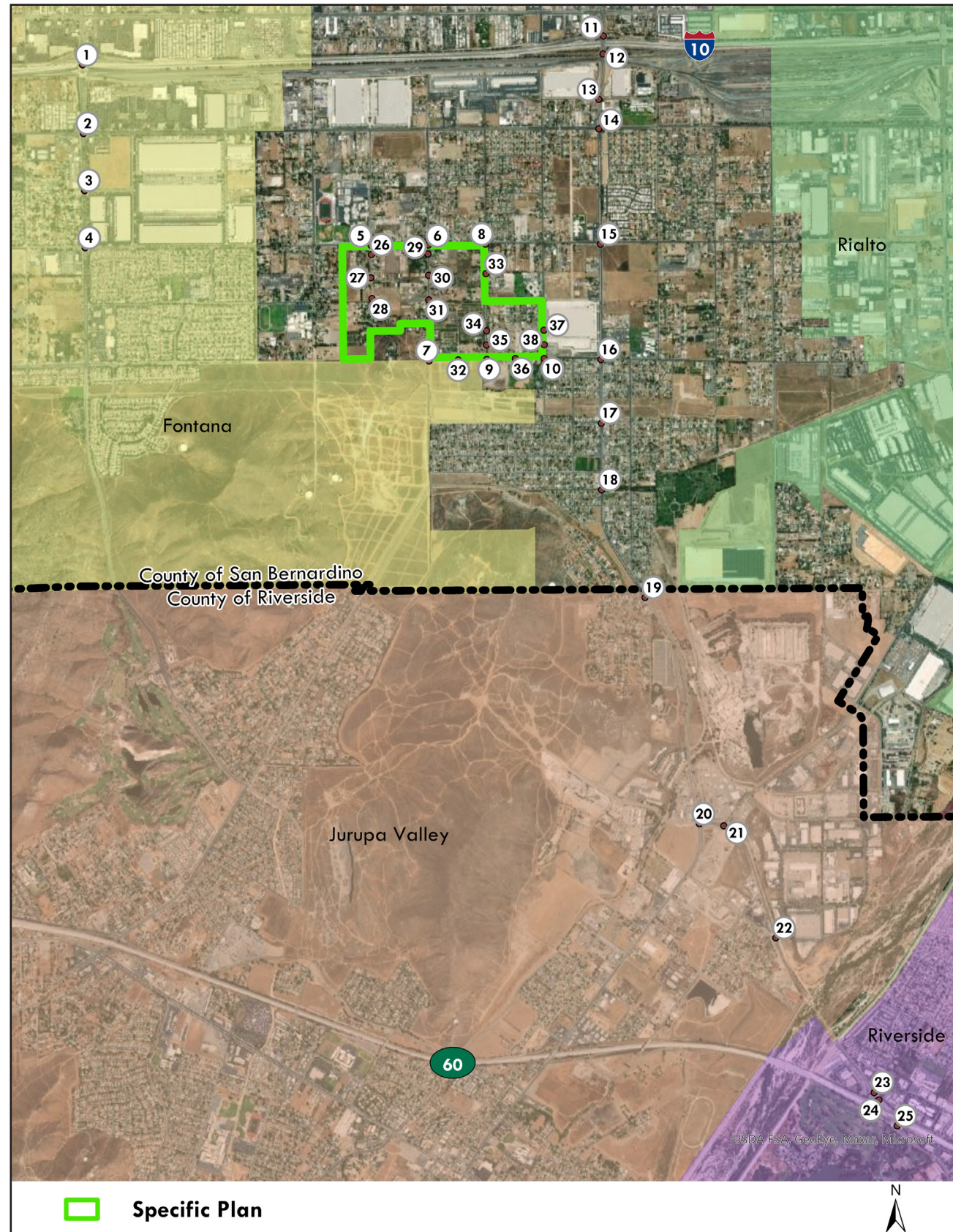
Specific Plan Automobile AM Assignment (A)



Specific Plan Automobile AM Assignment (B)

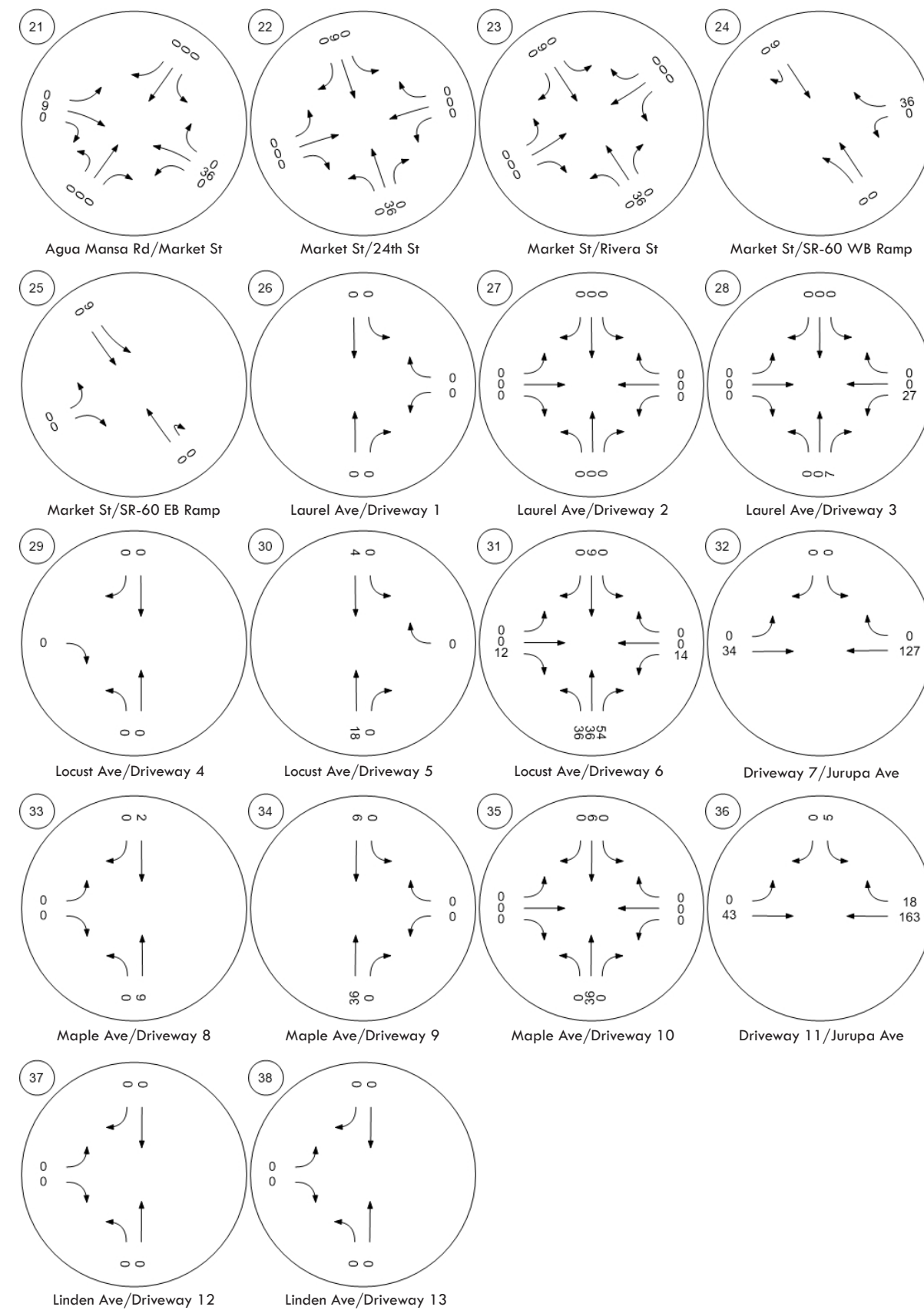
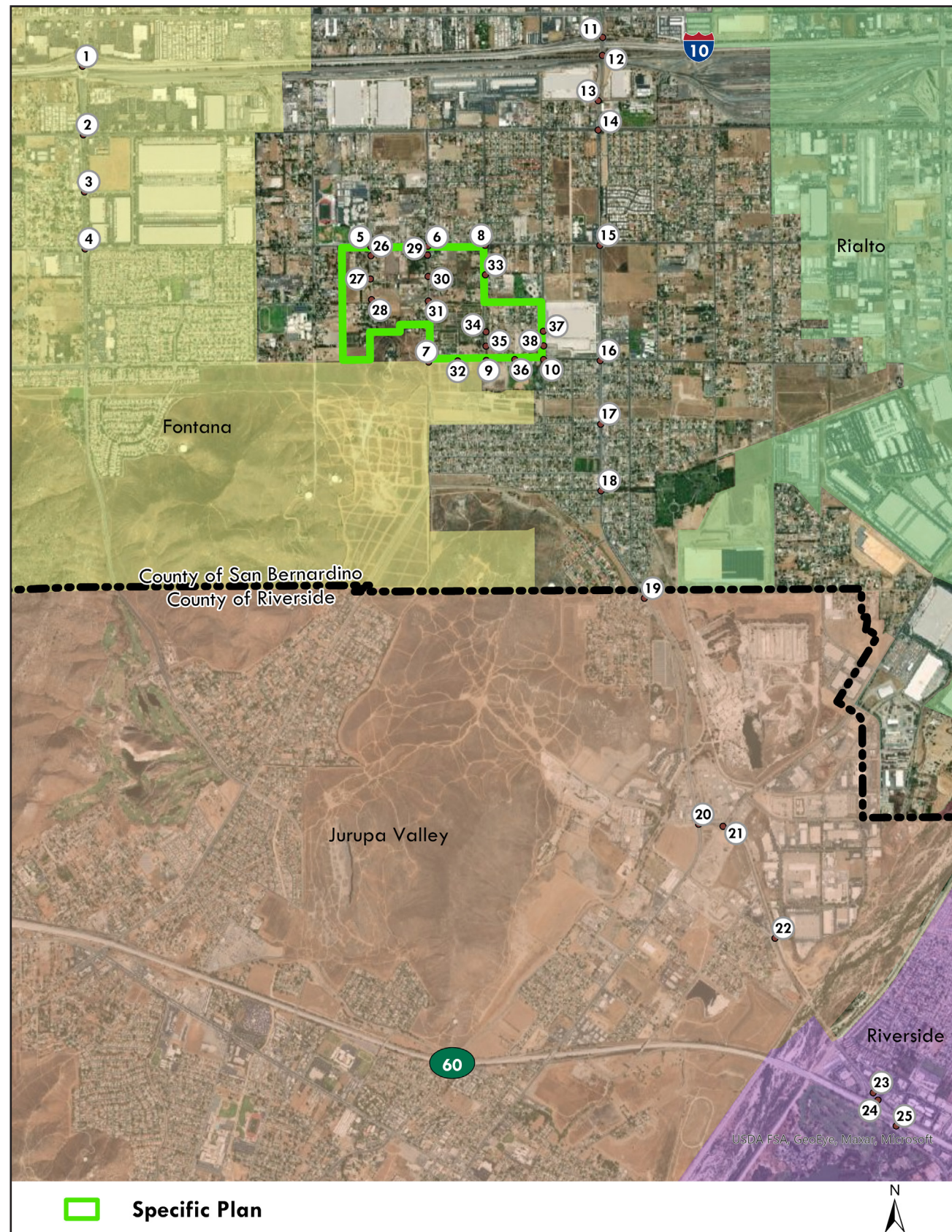


Specific Plan Truck AM Assignment (A)

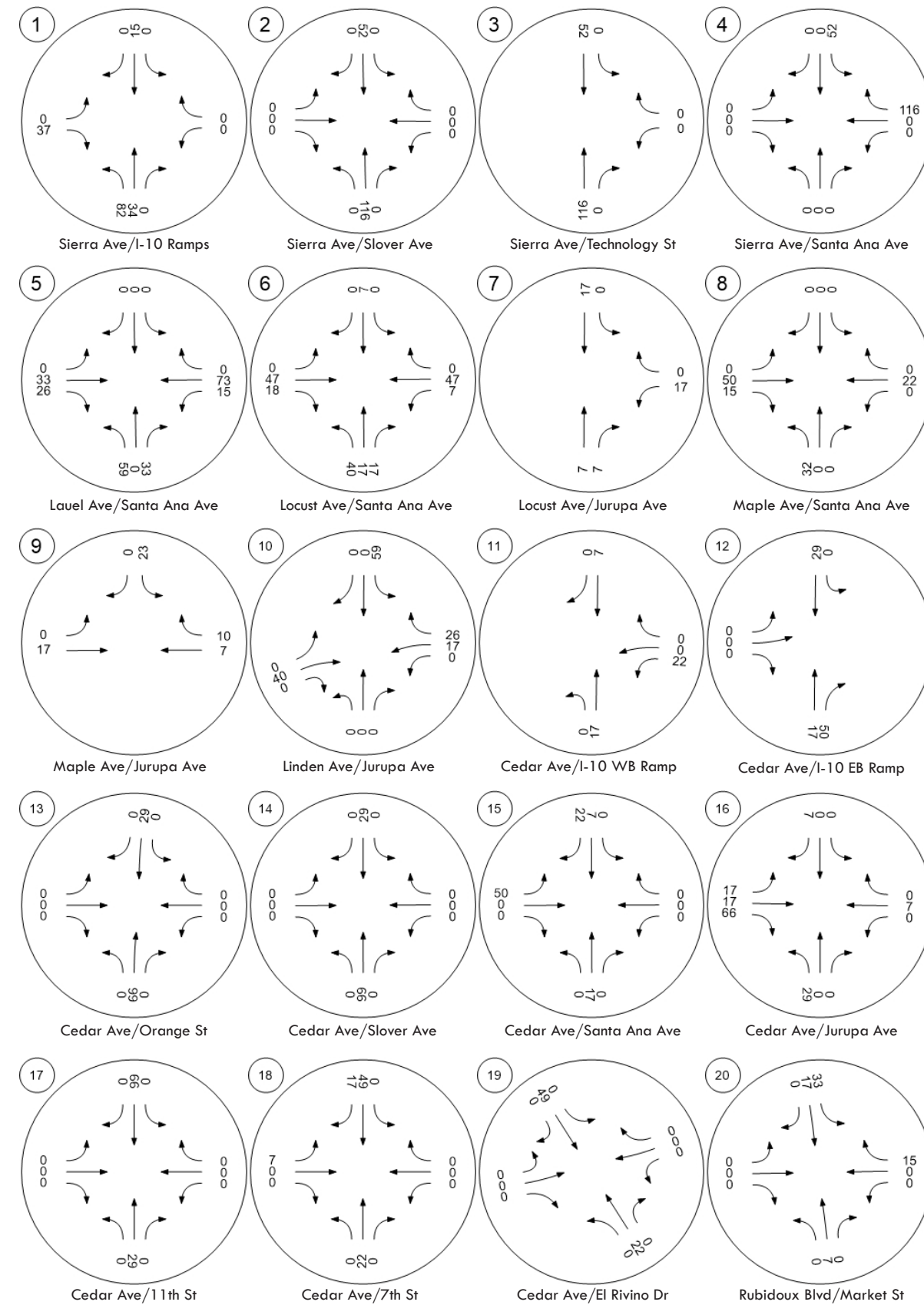
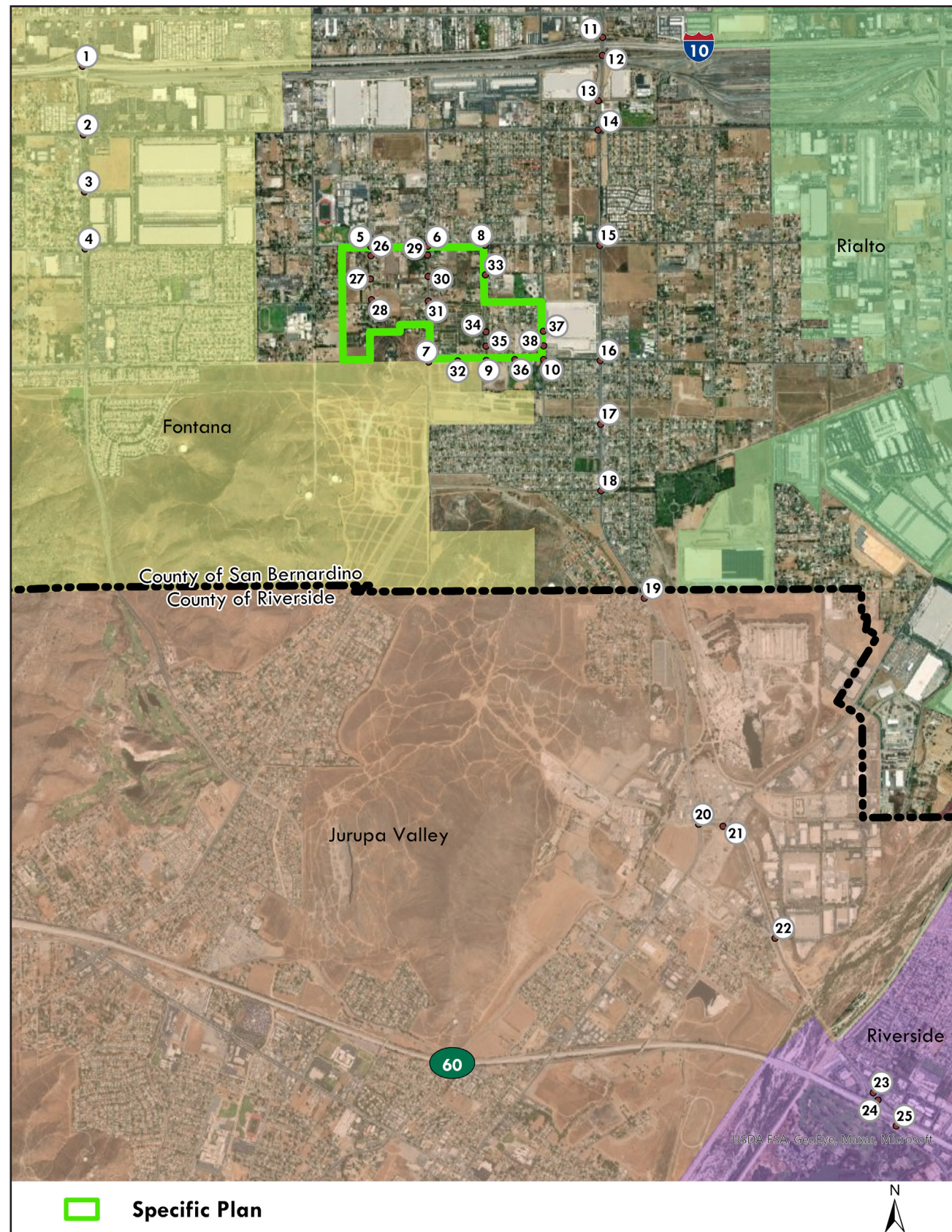




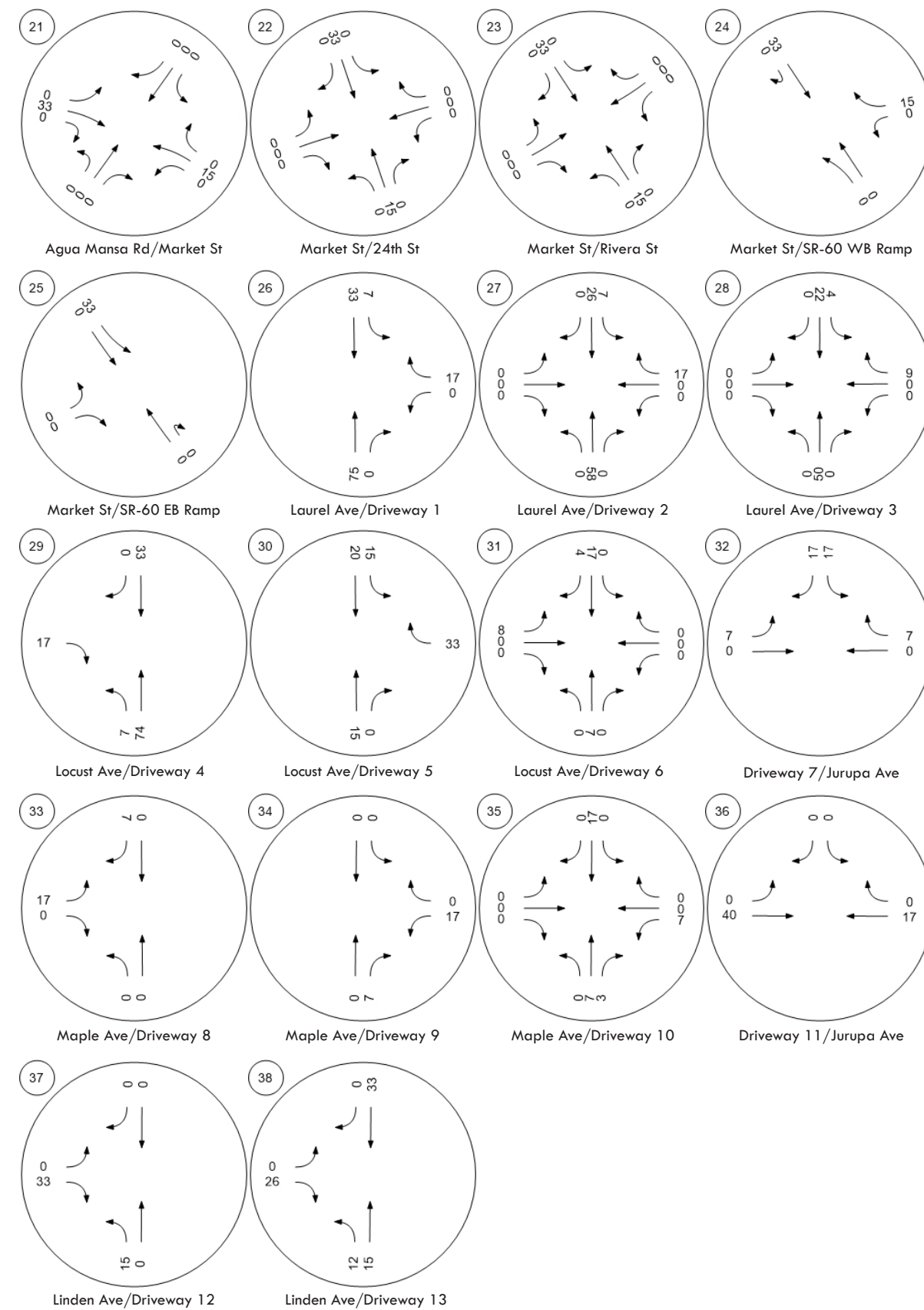
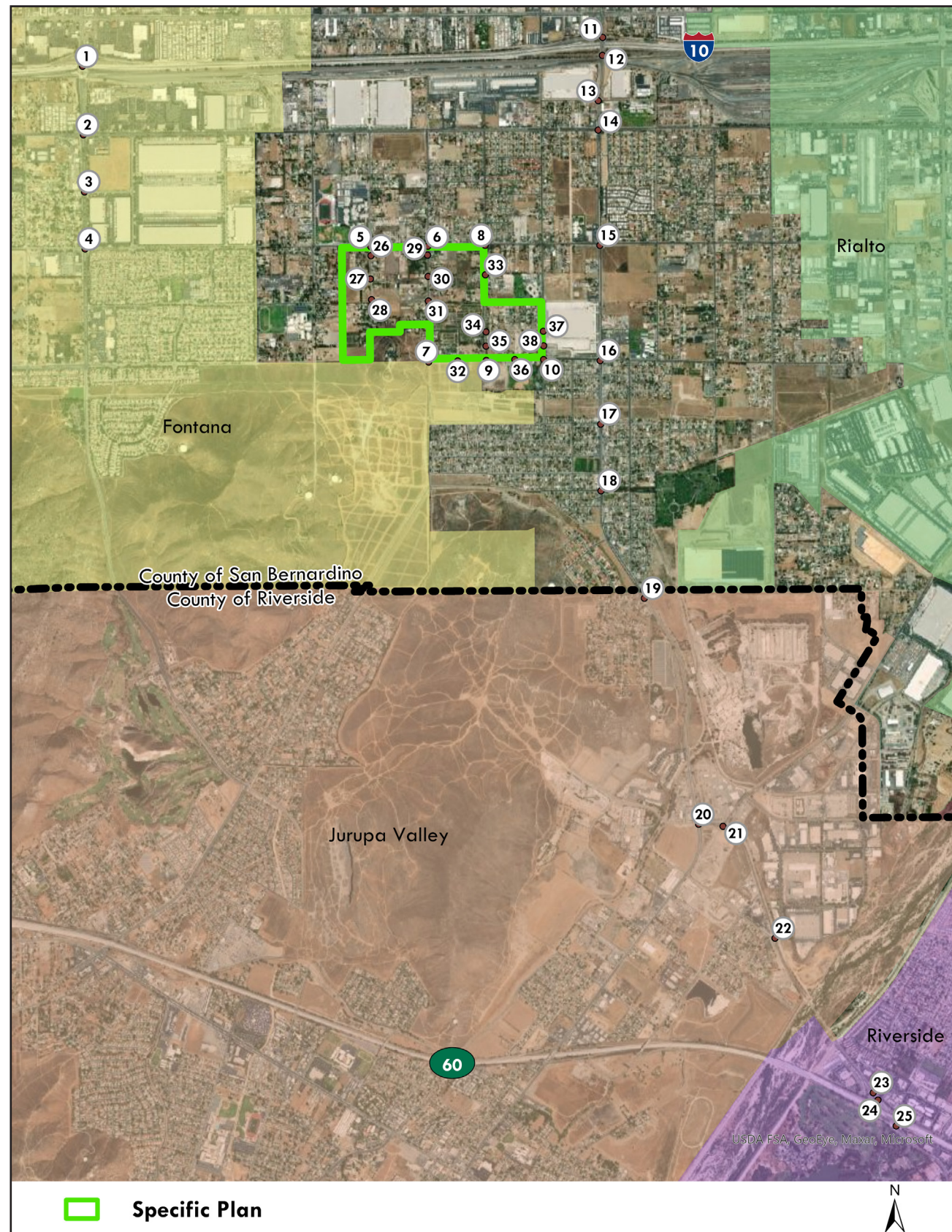
Specific Plan Truck AM Assignment (B)



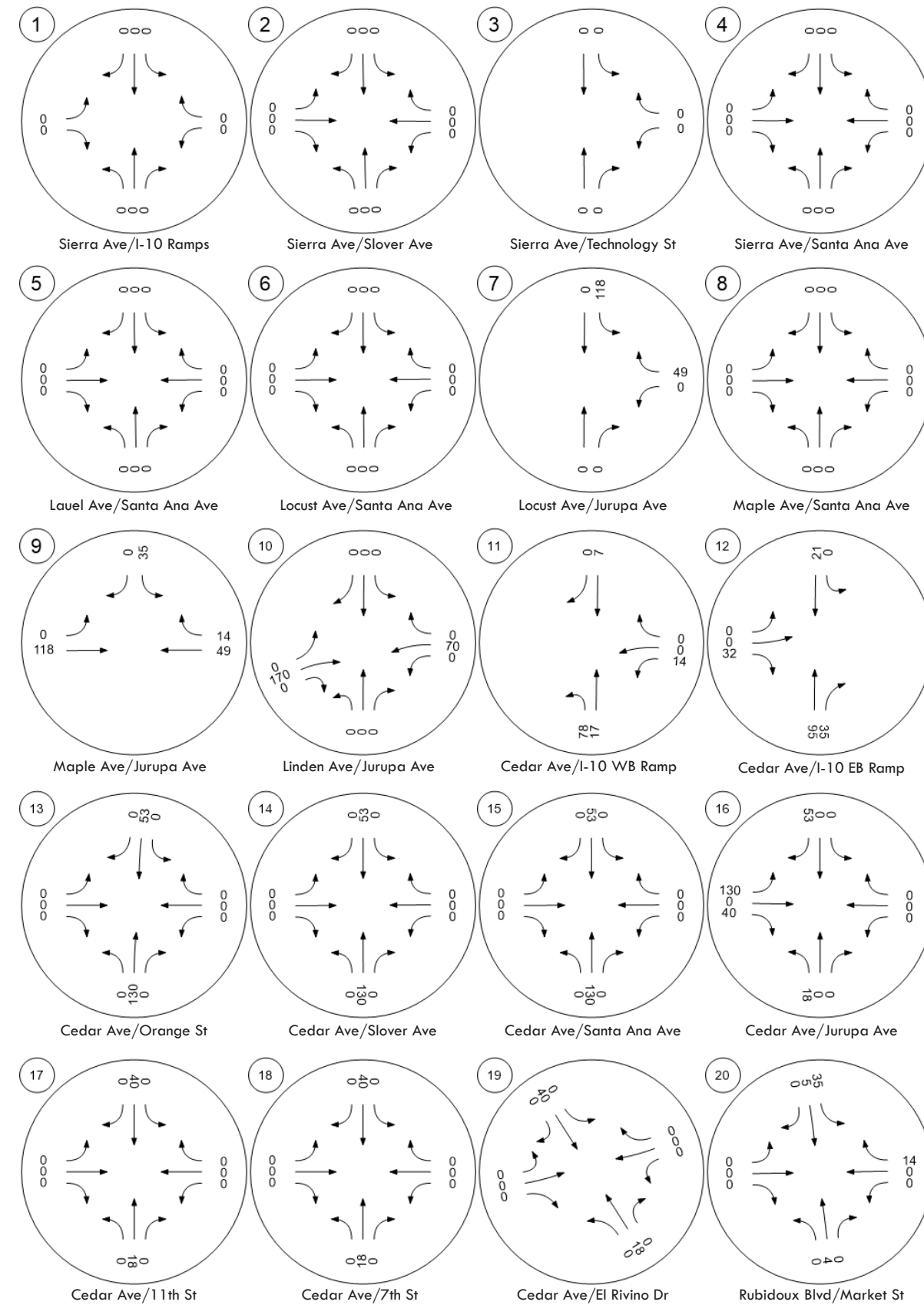
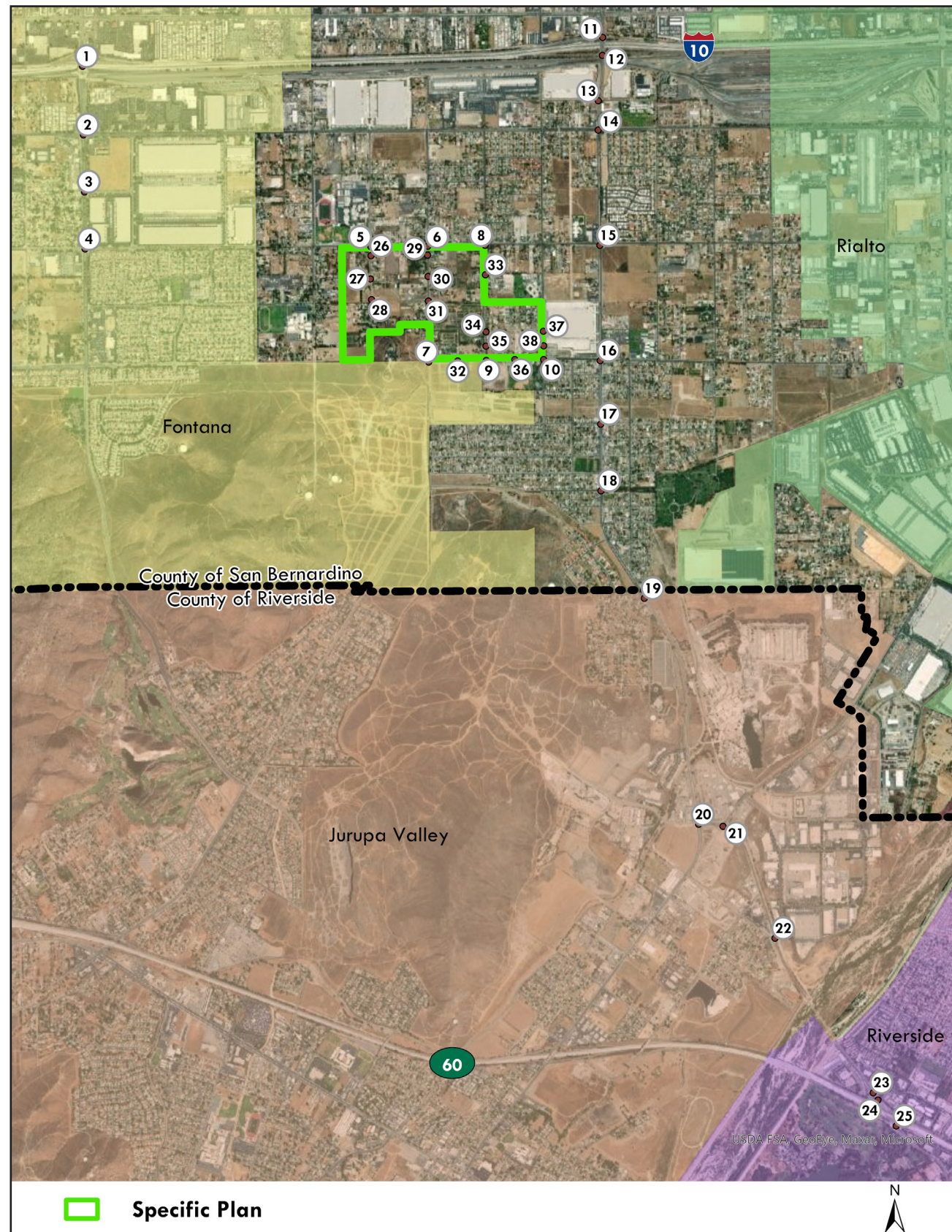
Specific Plan Automobile PM Assignment (A)



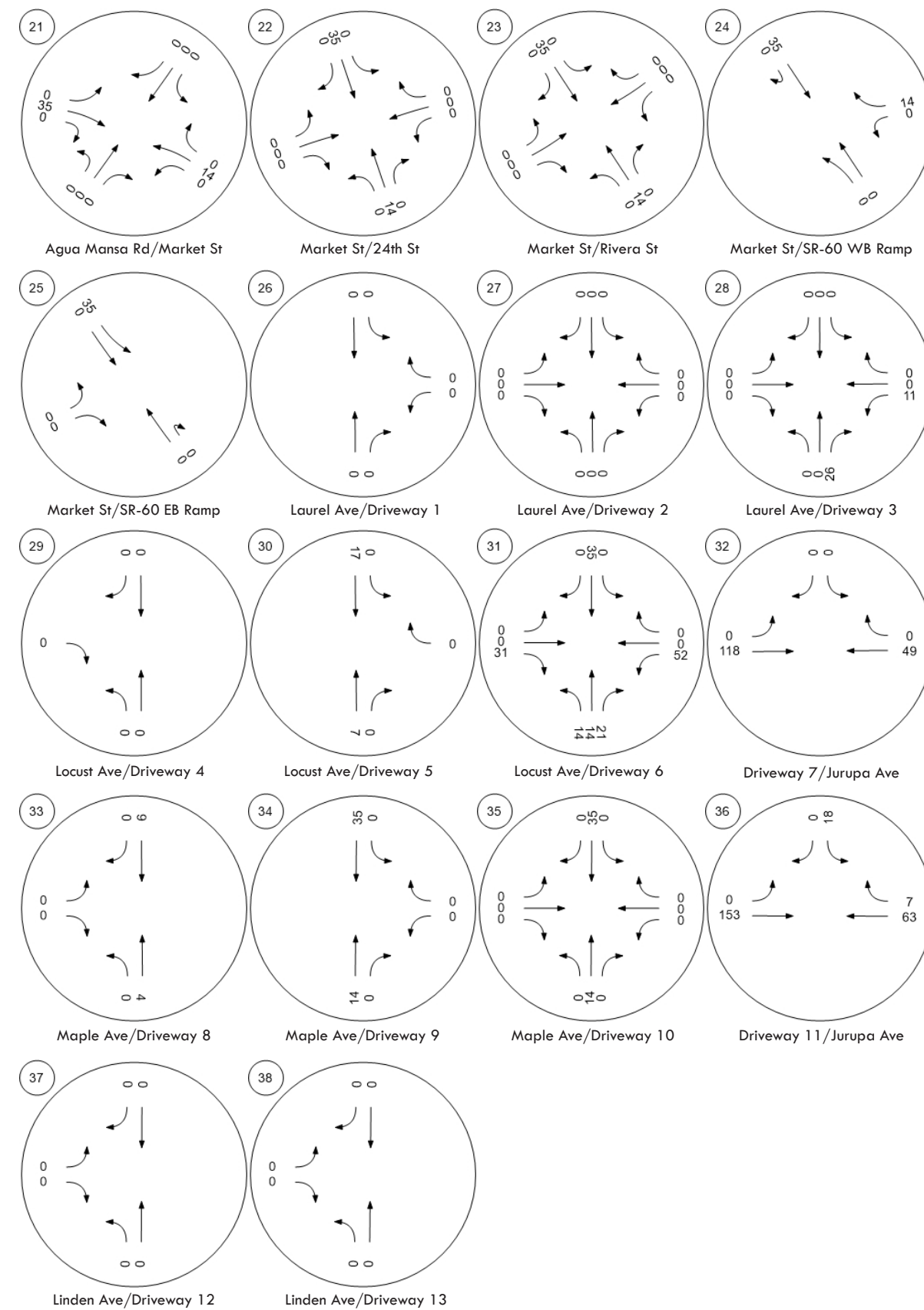
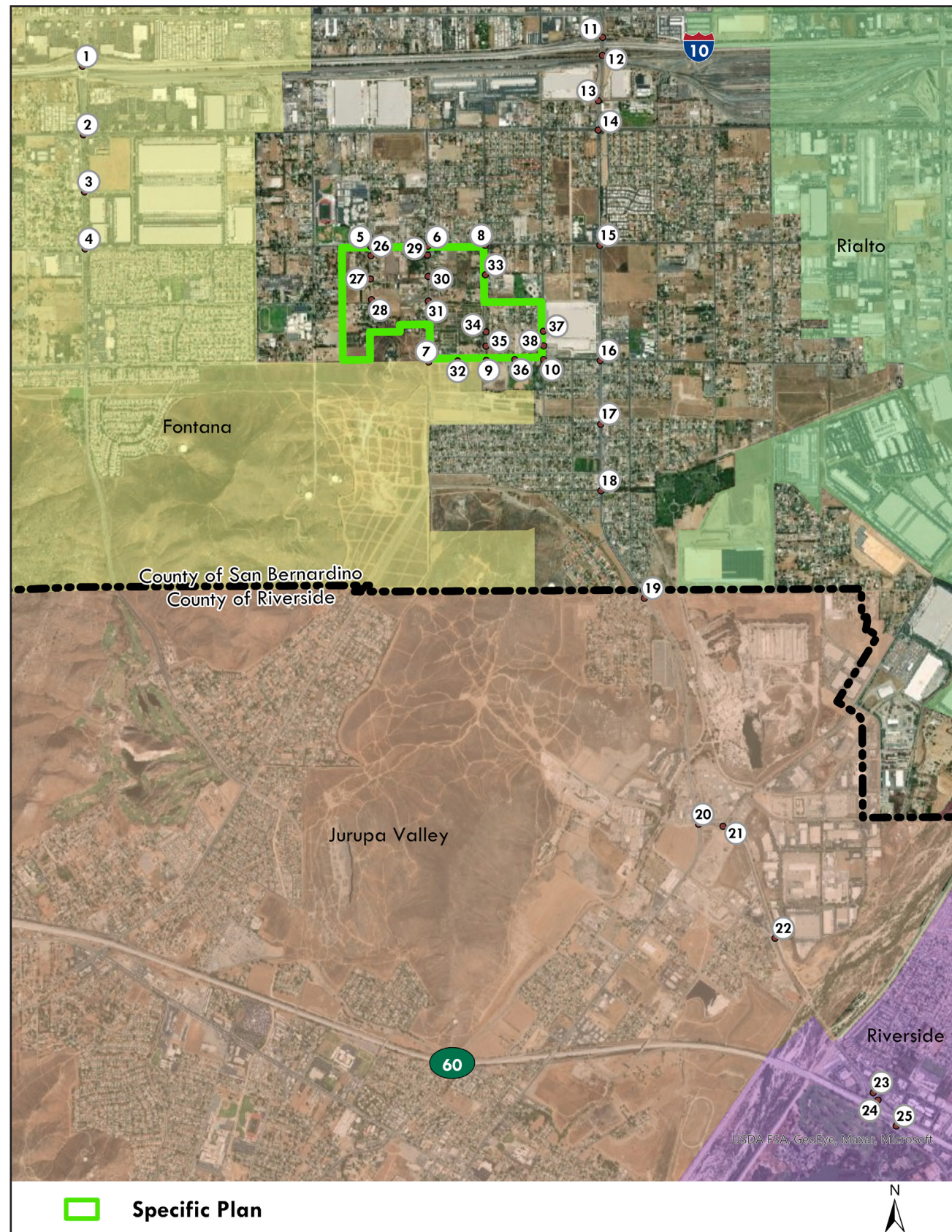
Specific Plan Automobile PM Assignment (B)



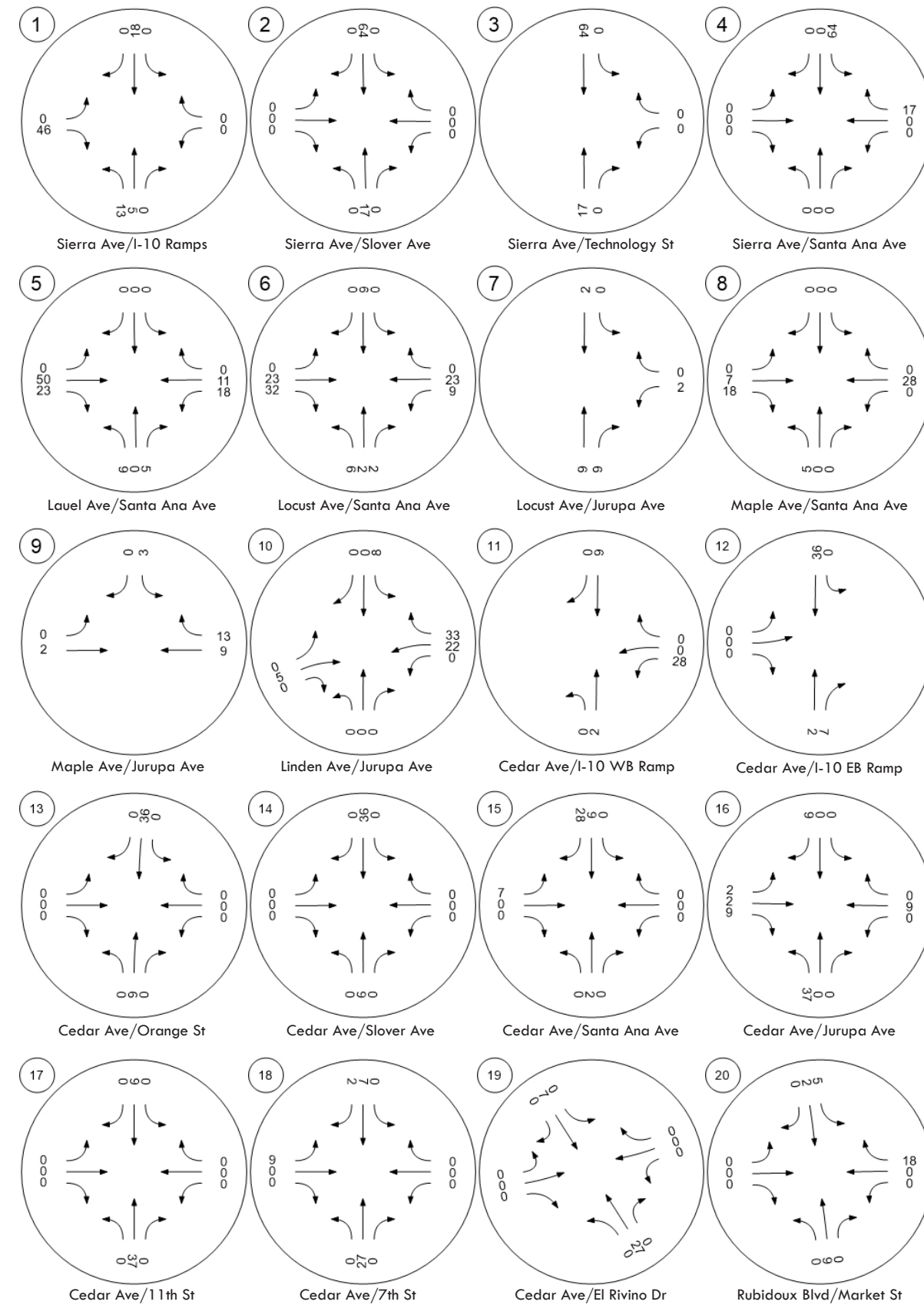
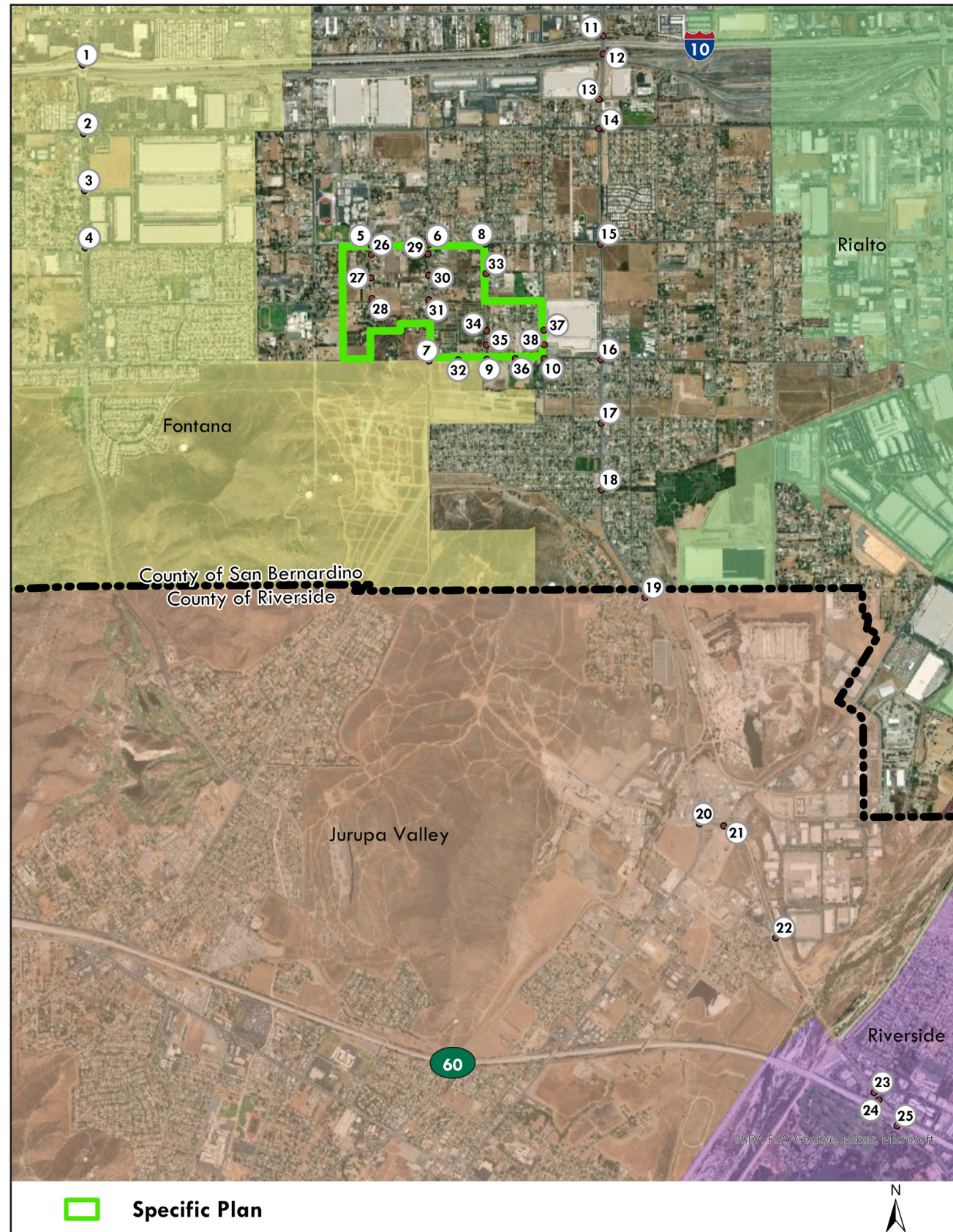
Specific Plan Truck PM Assignment (A)



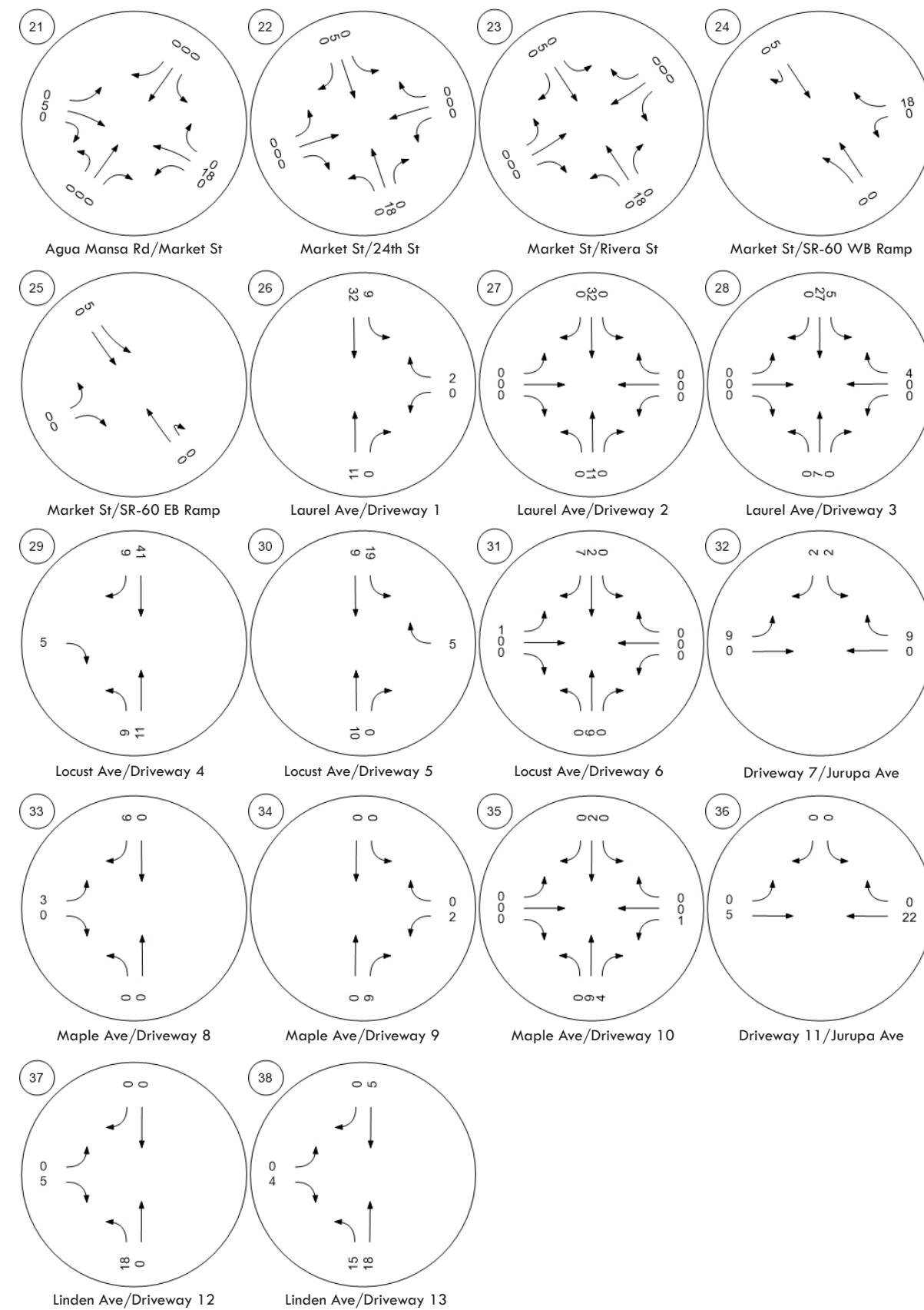
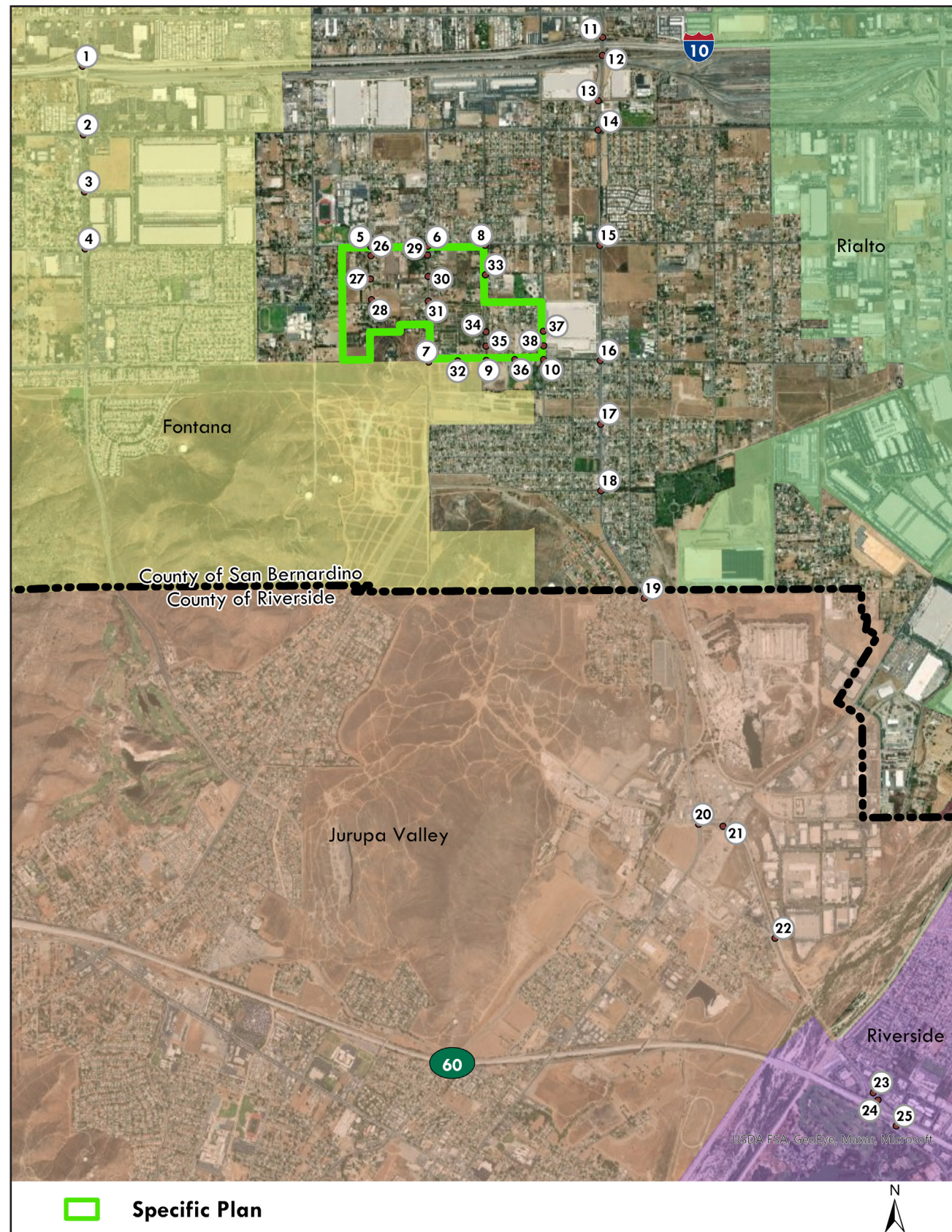
Specific Plan Truck PM Assignment (B)



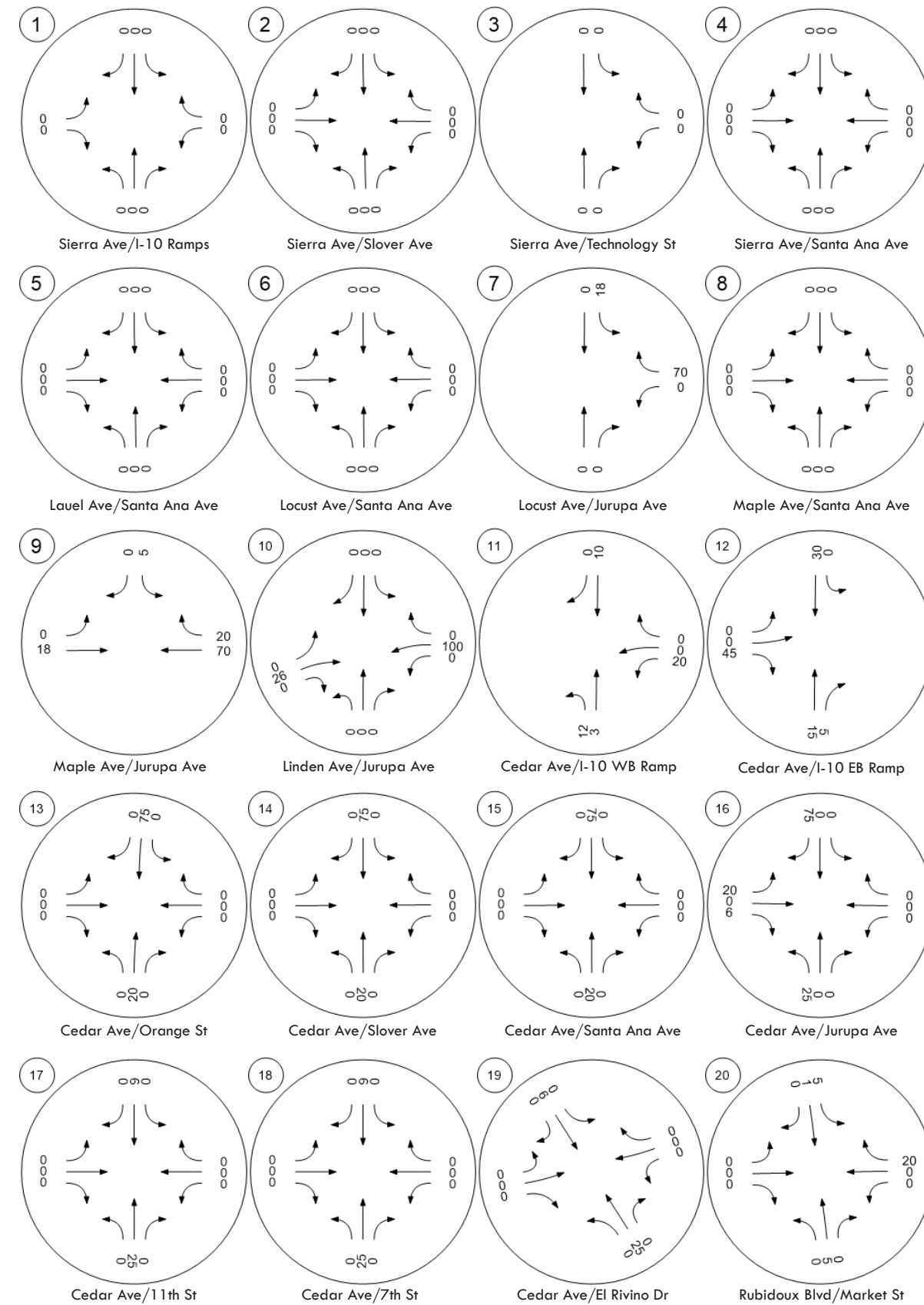
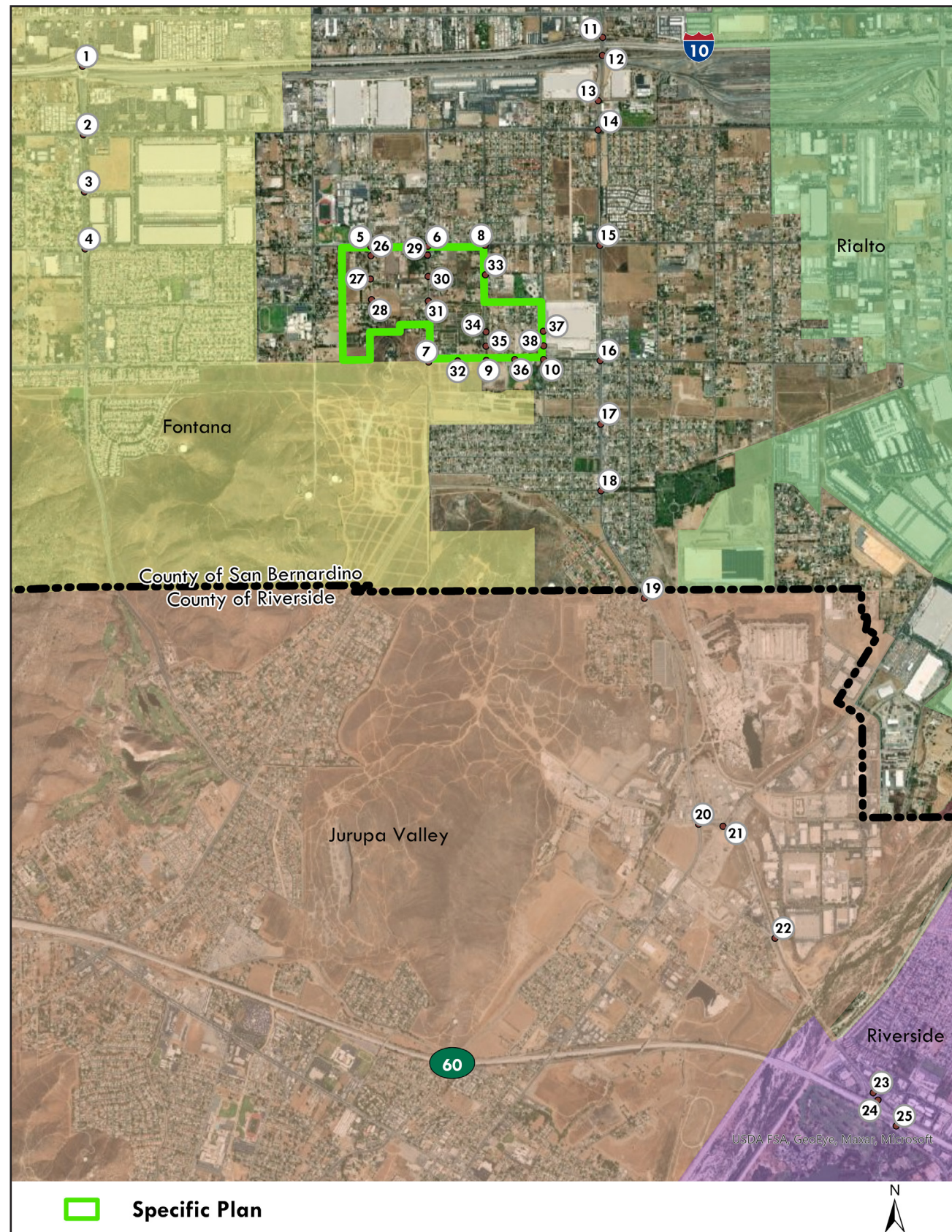
Maximum Reasonable Development Automobile AM Assignment (A)



### Maximum Reasonable Development Automobile AM Assignment (B)

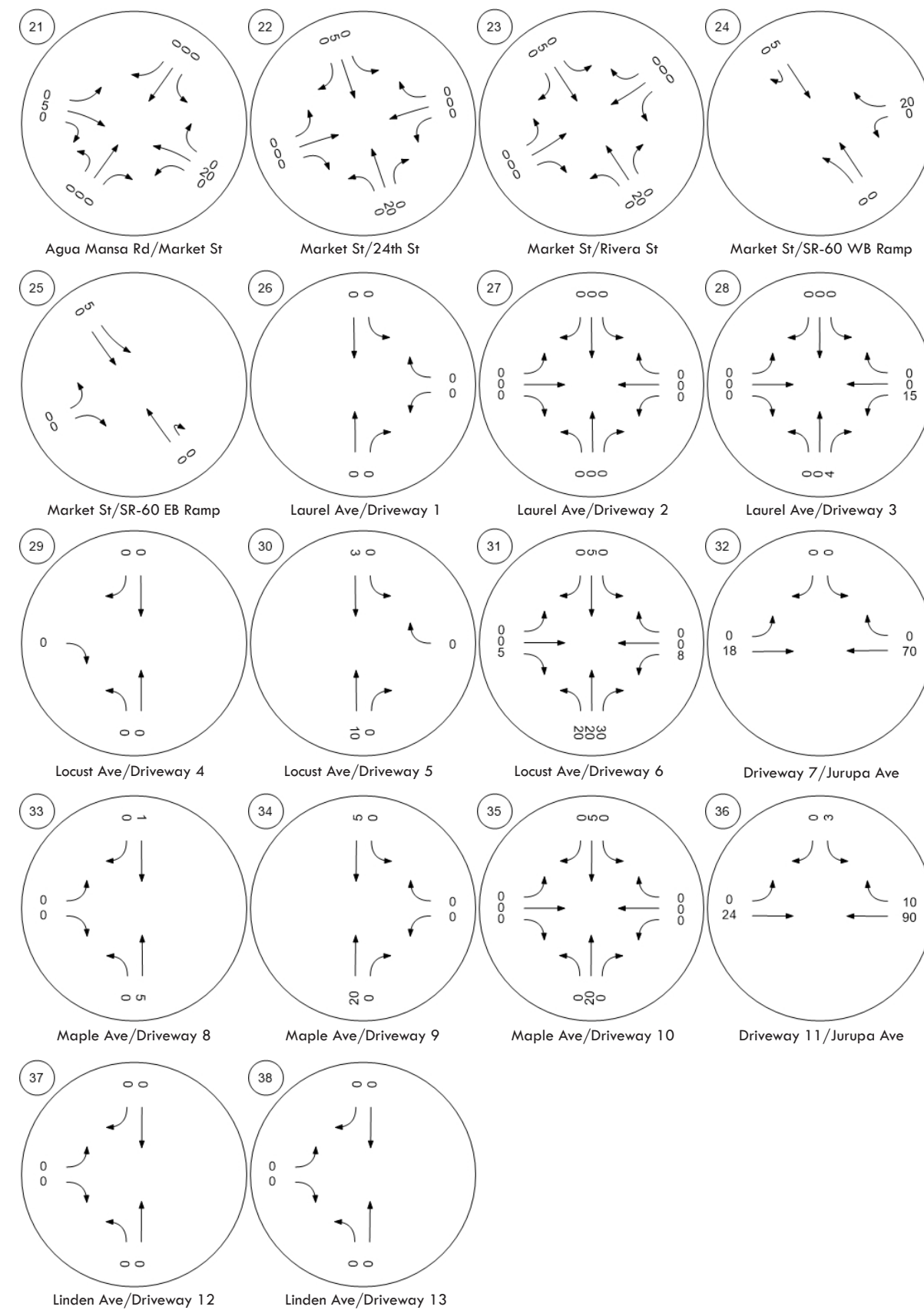
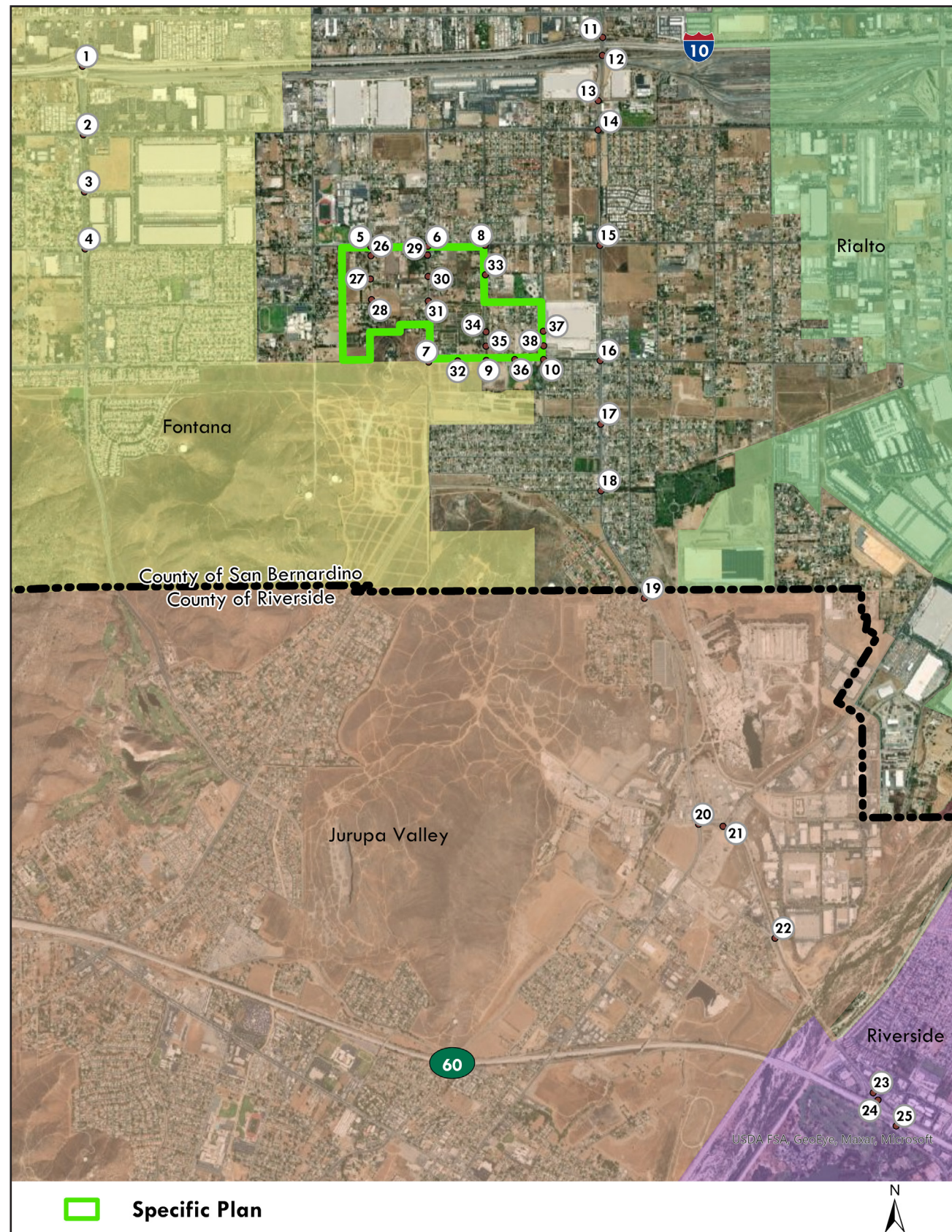


Maximum Reasonable Development Truck AM Assignment (A)

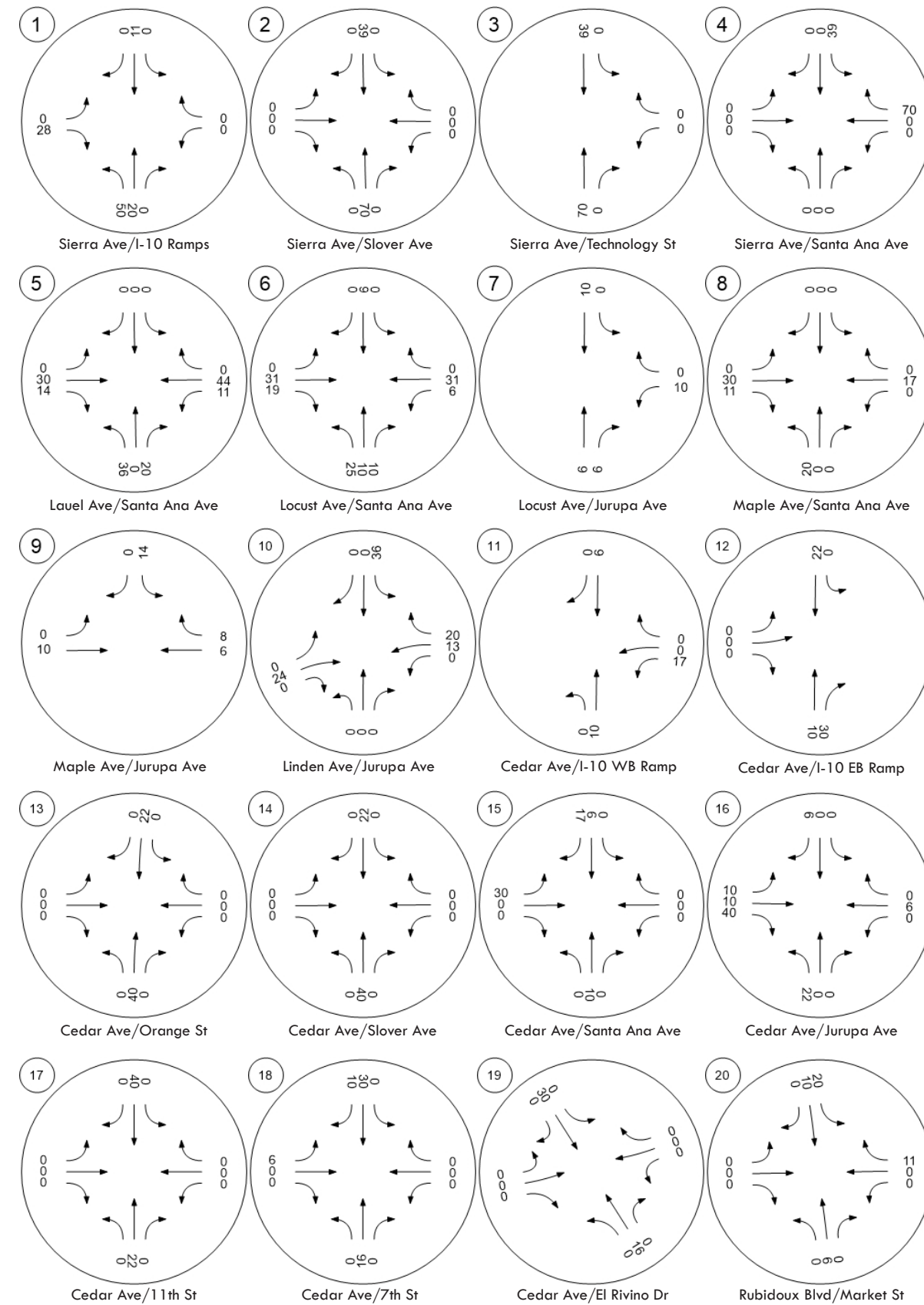
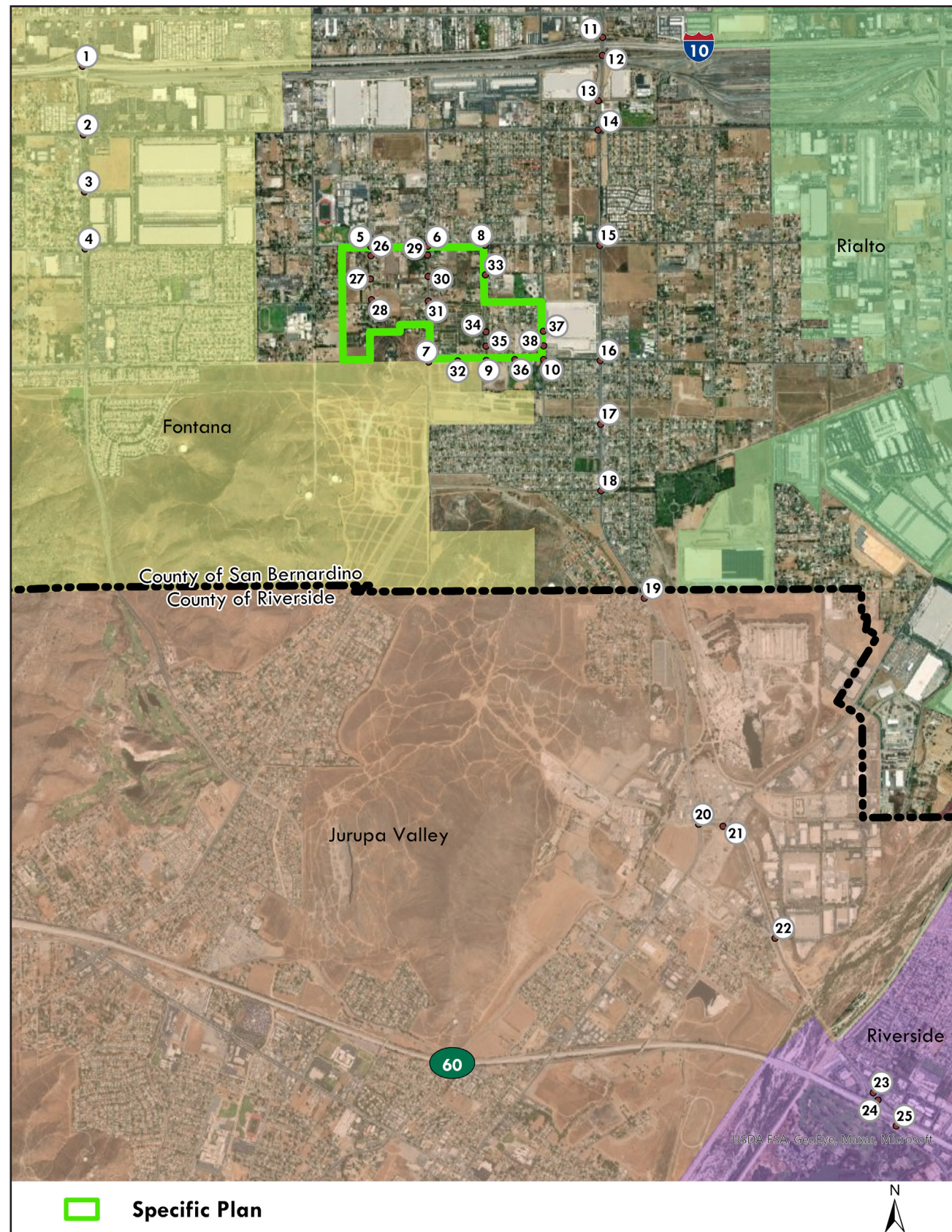




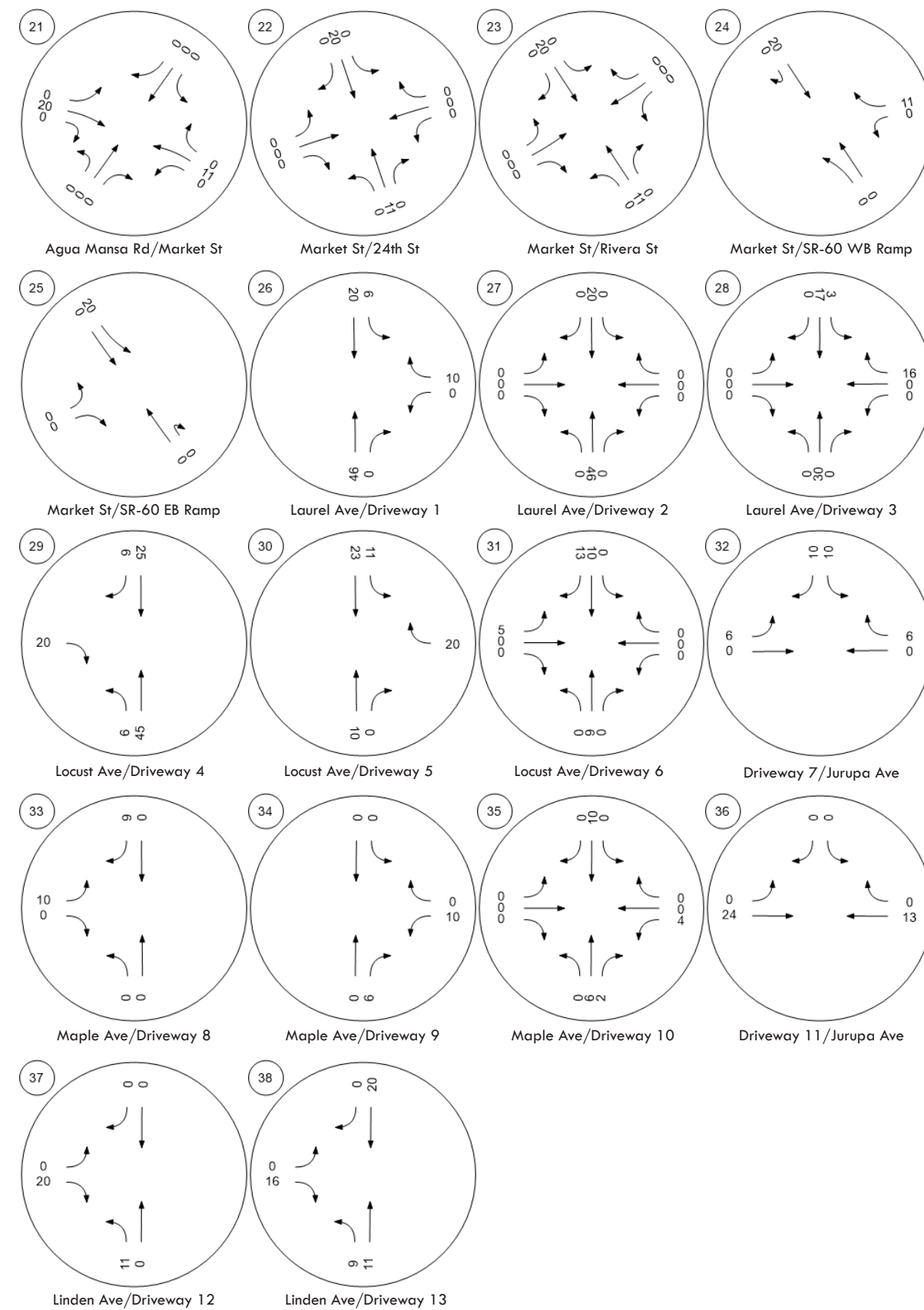
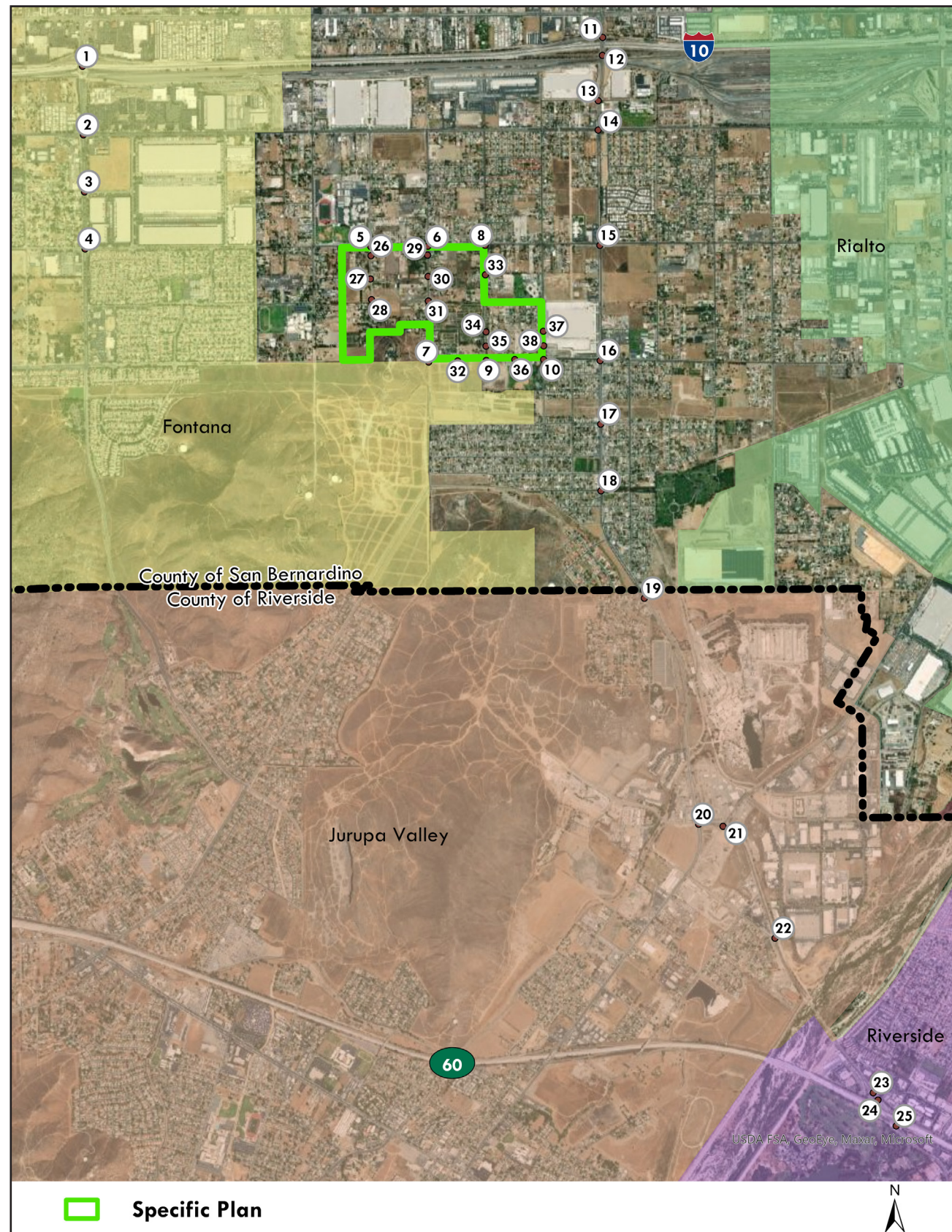
Maximum Reasonable Development Truck AM Assignment (B)



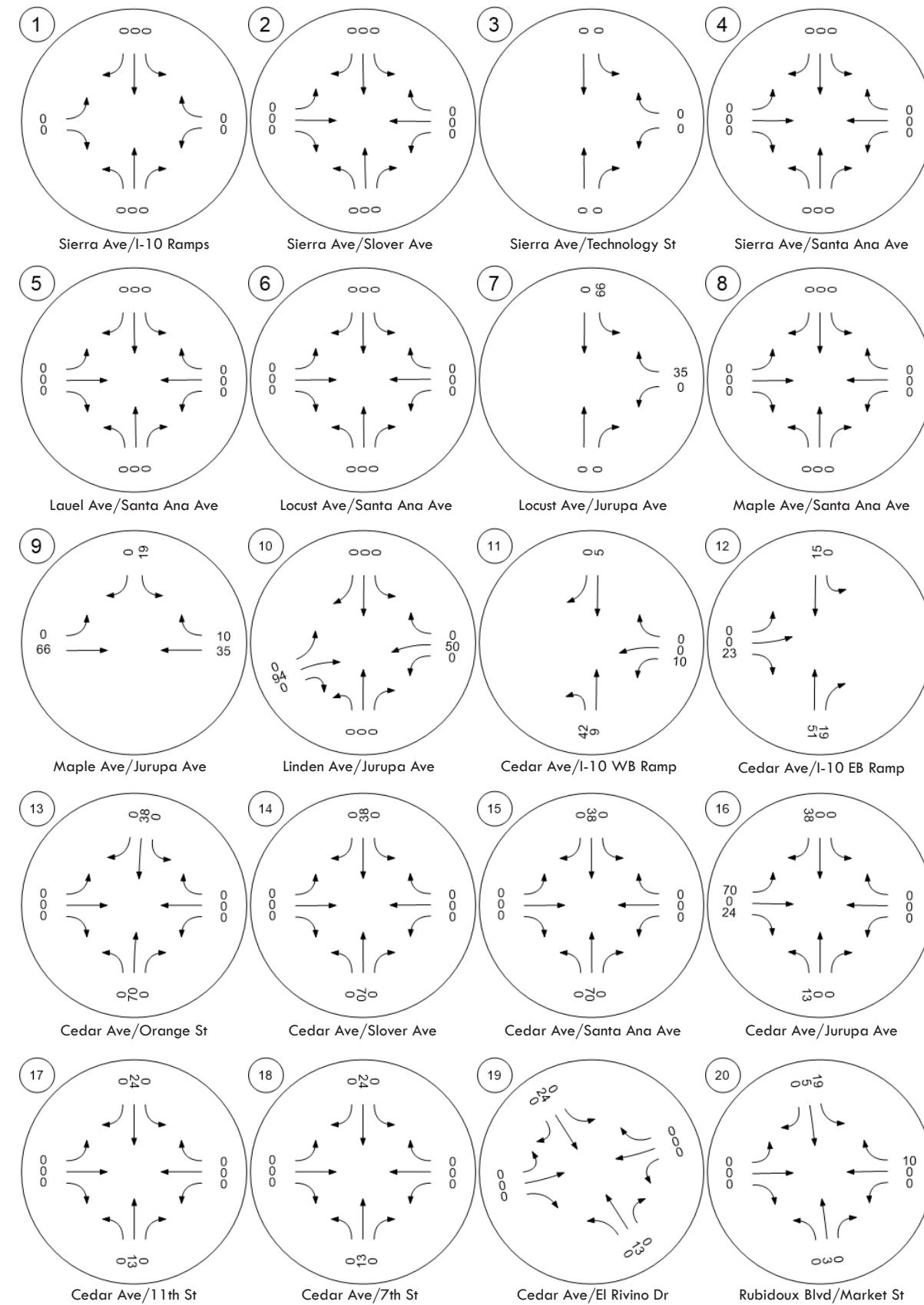
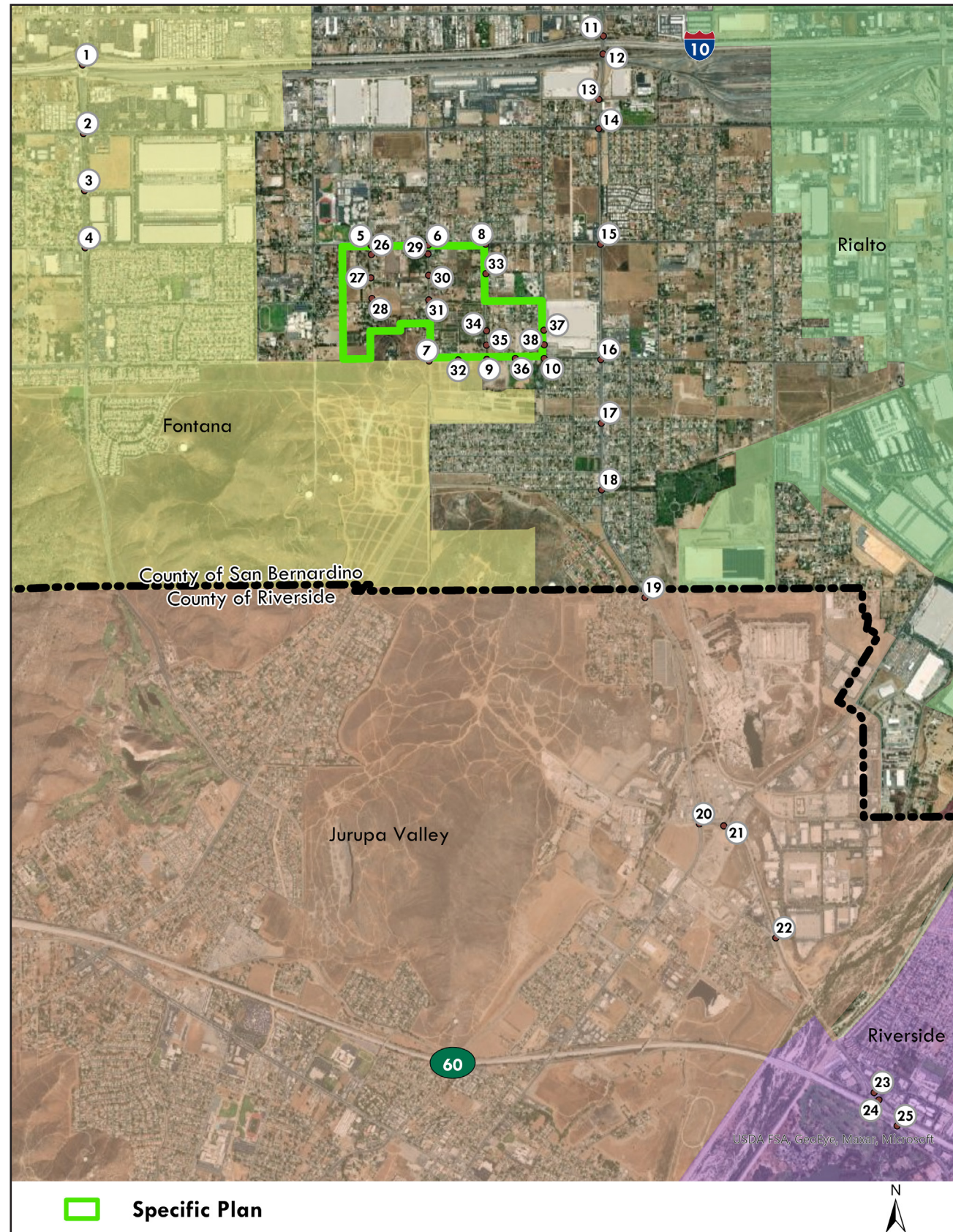
Maximum Reasonable Development Automobile PM Assignment (A)



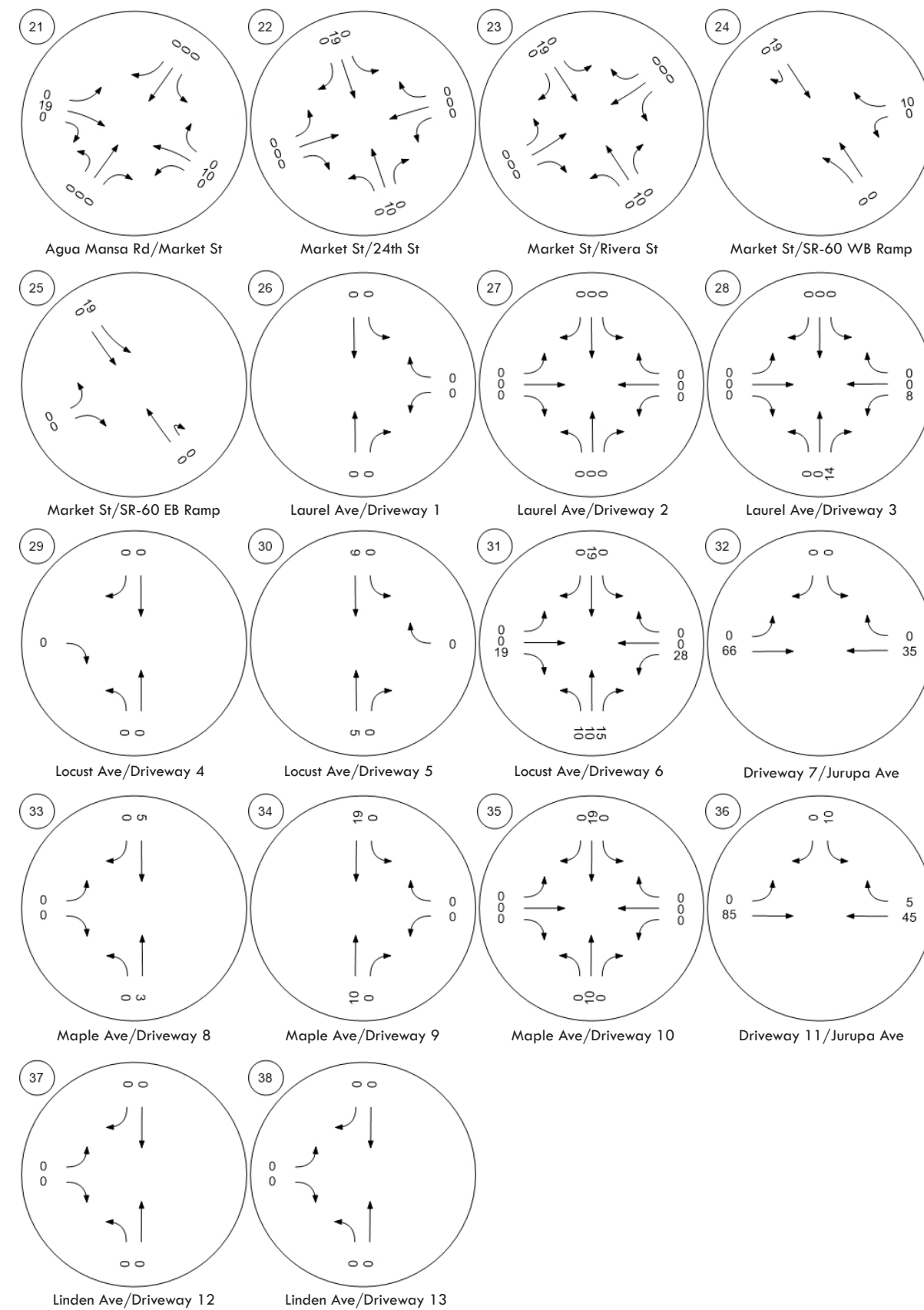
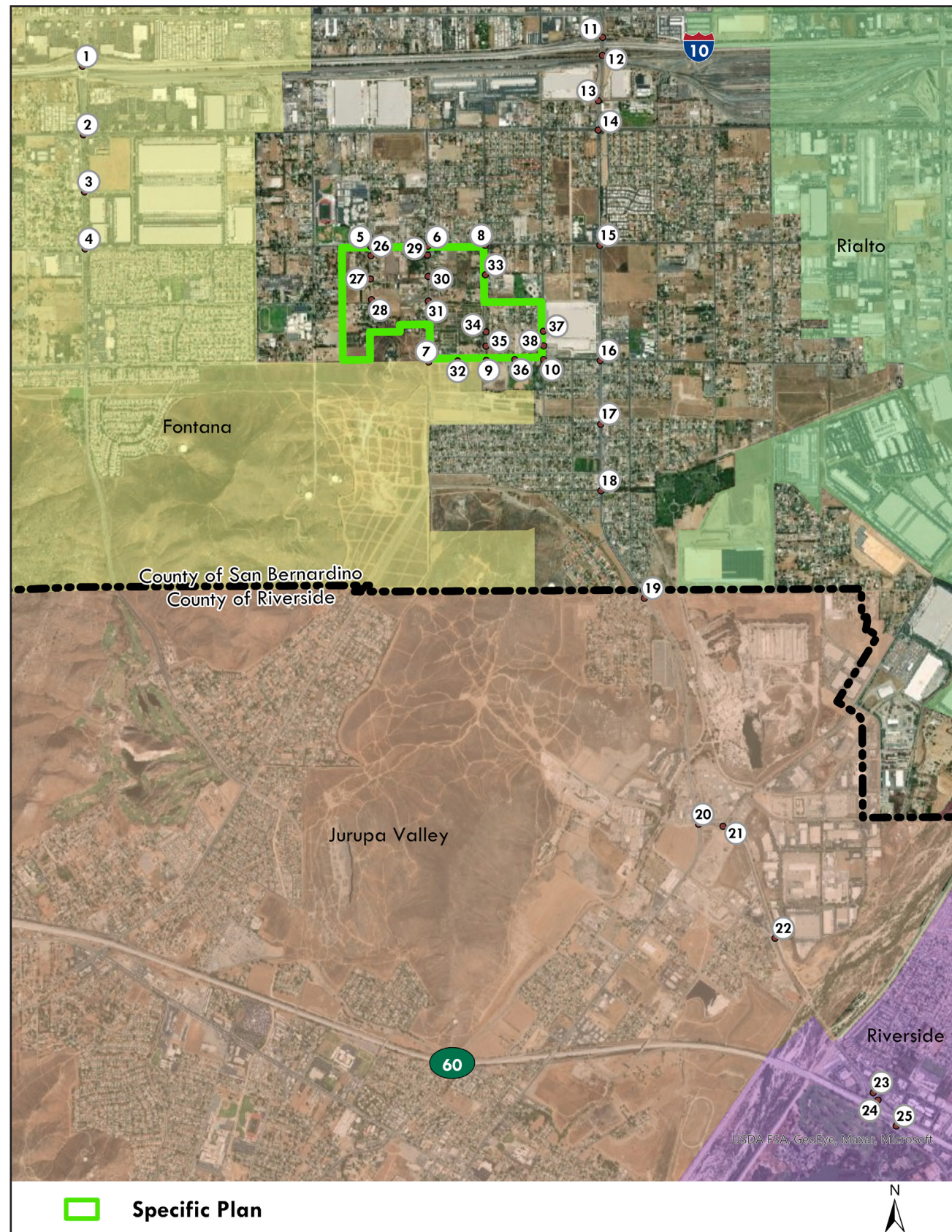
Maximum Reasonable Development Automobile PM Assignment (B)



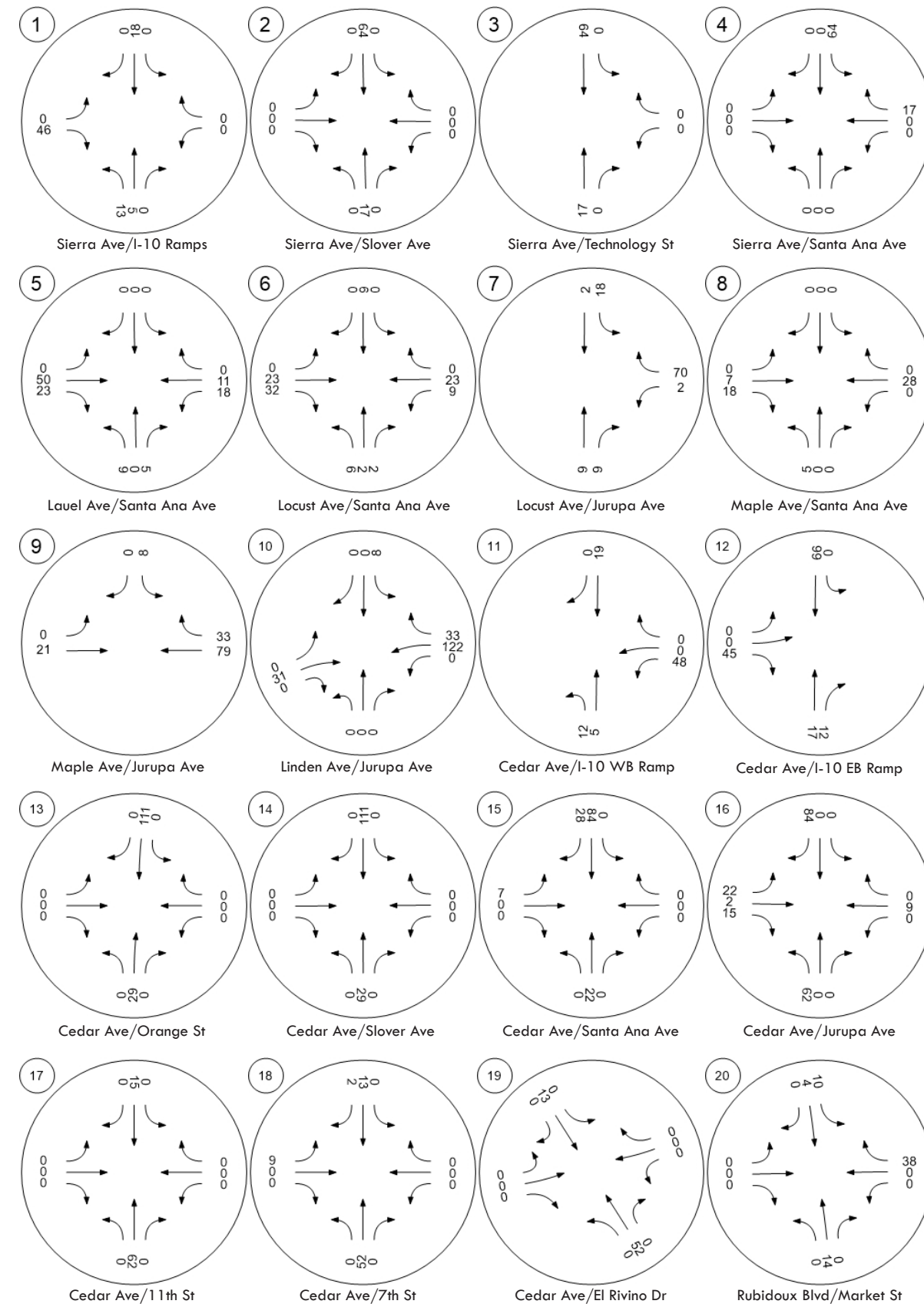
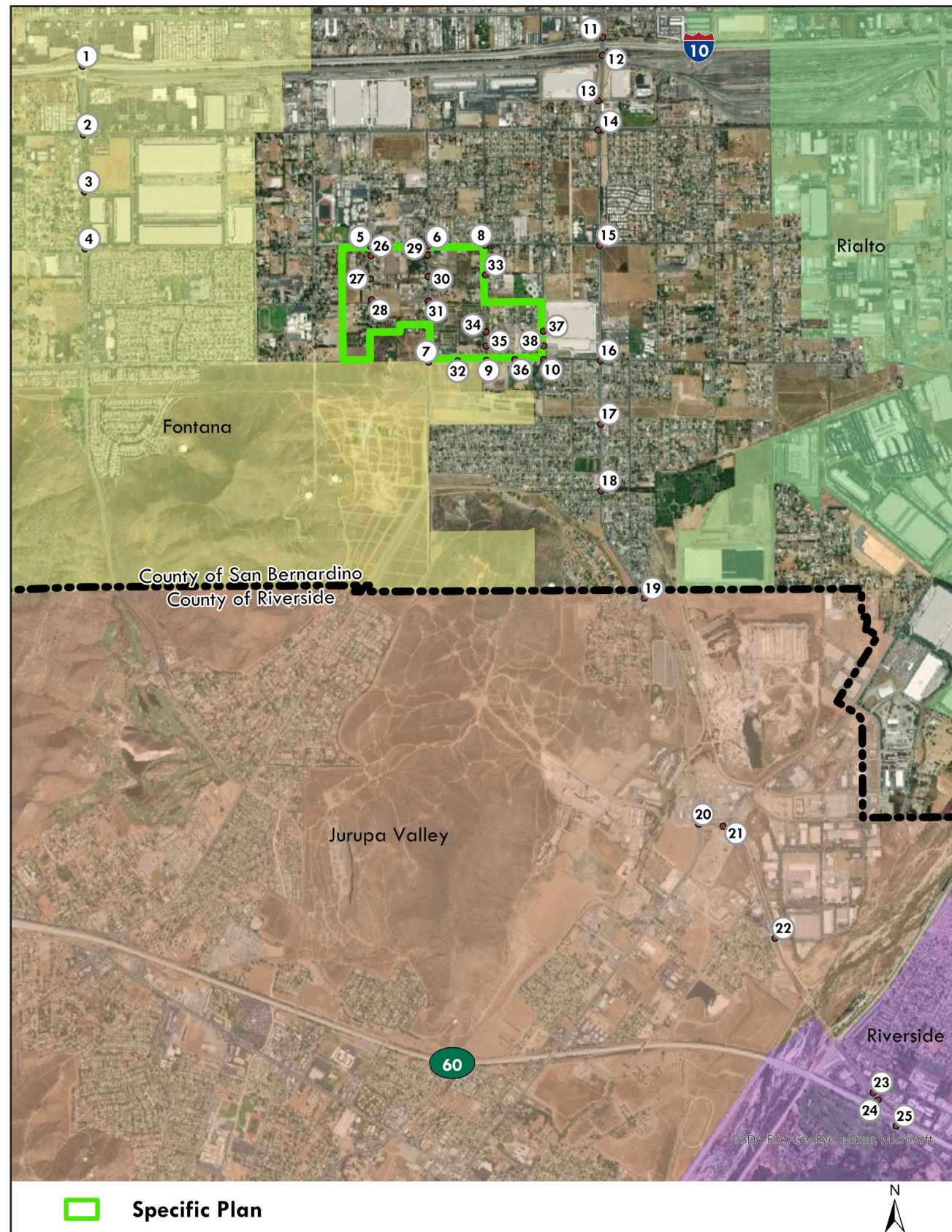
Maximum Reasonable Development Truck PM Assignment (A)



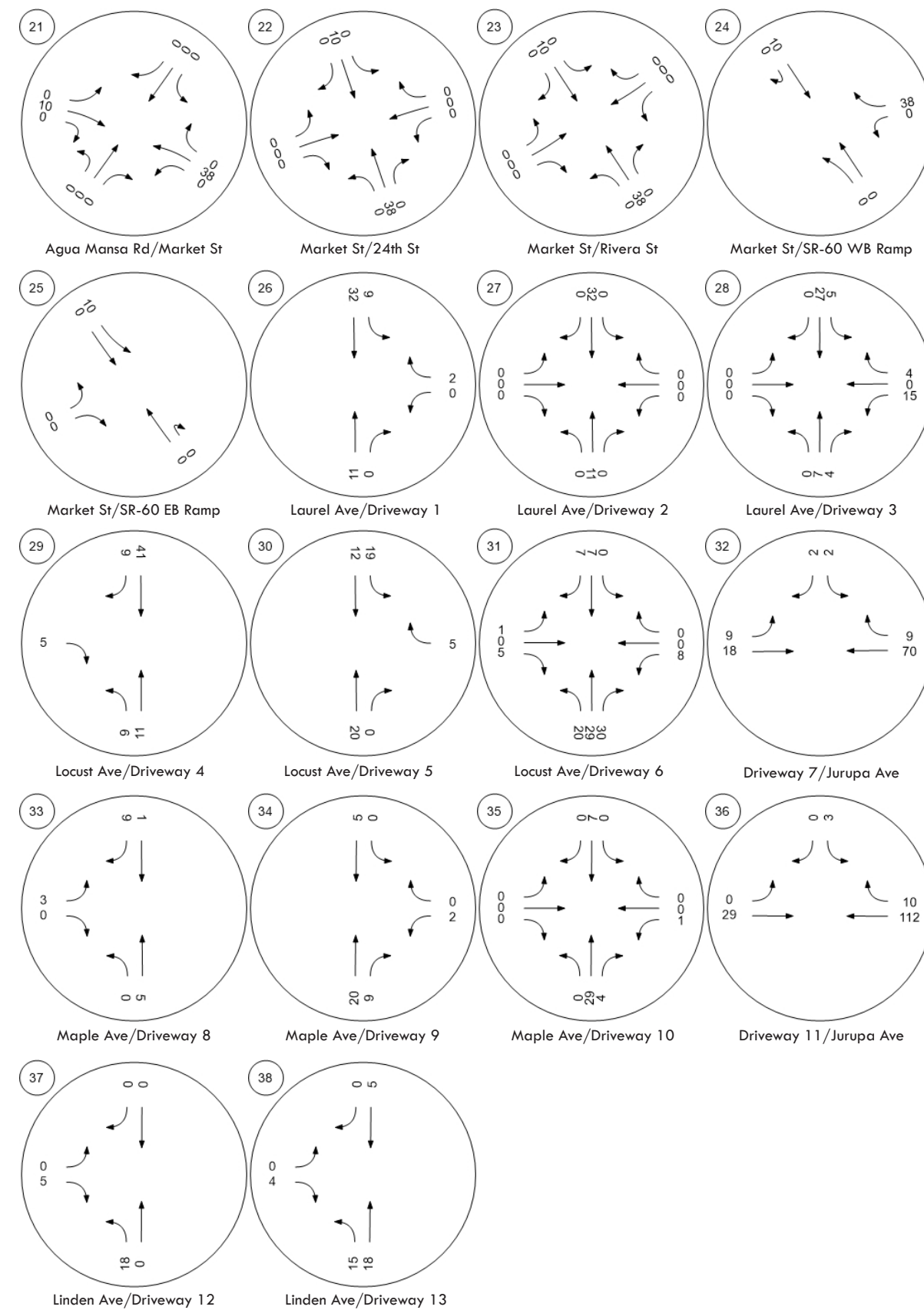
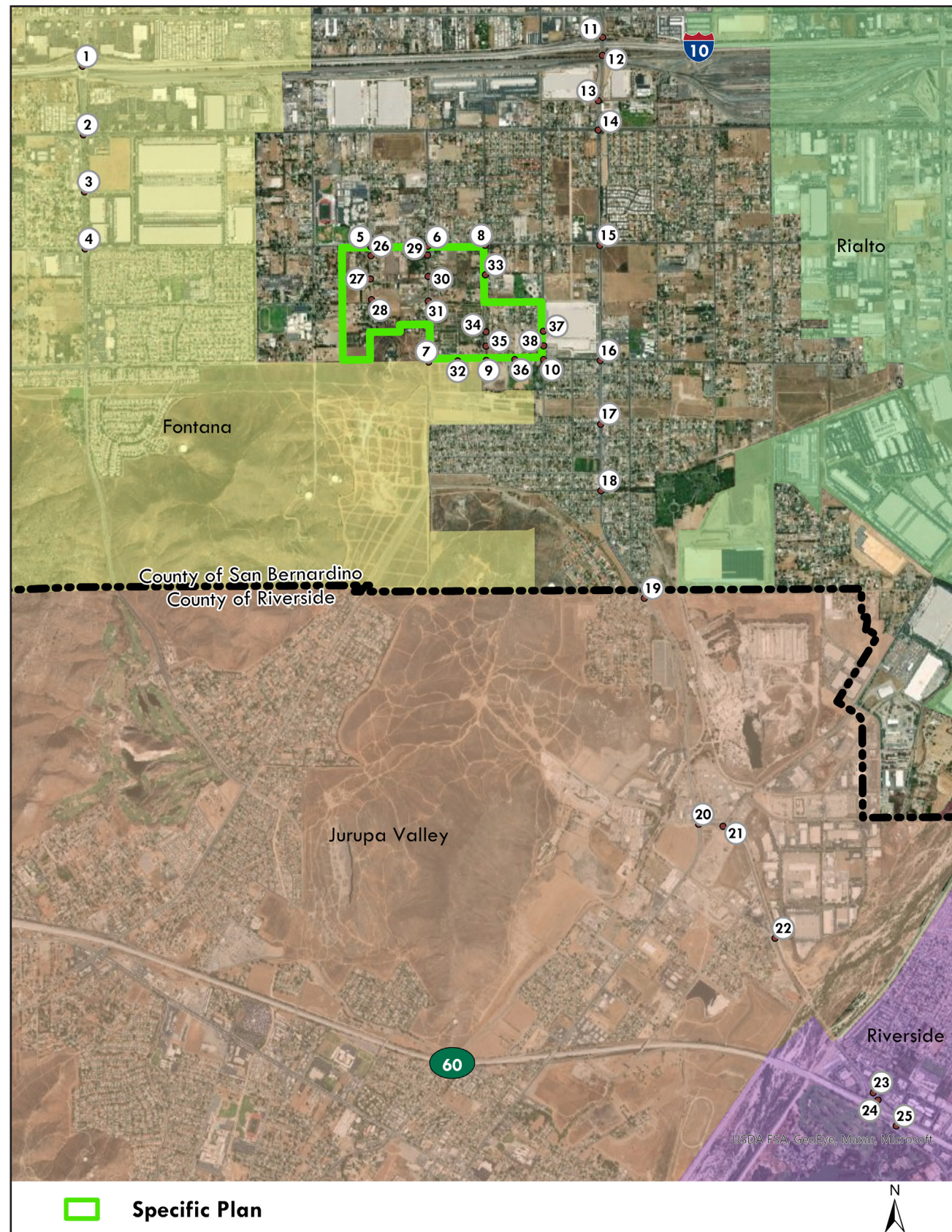
Maximum Reasonable Development Truck PM Assignment (B)



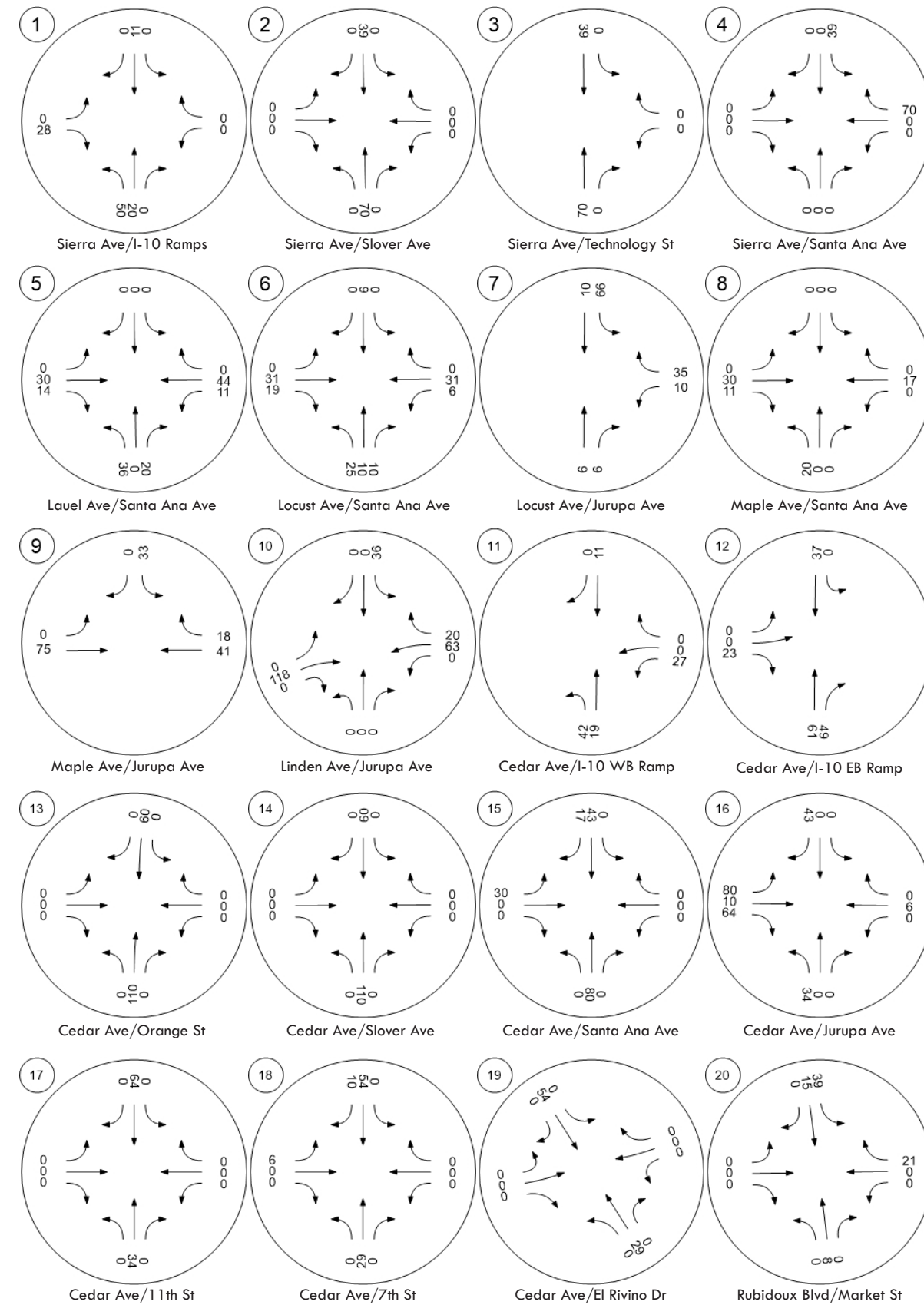
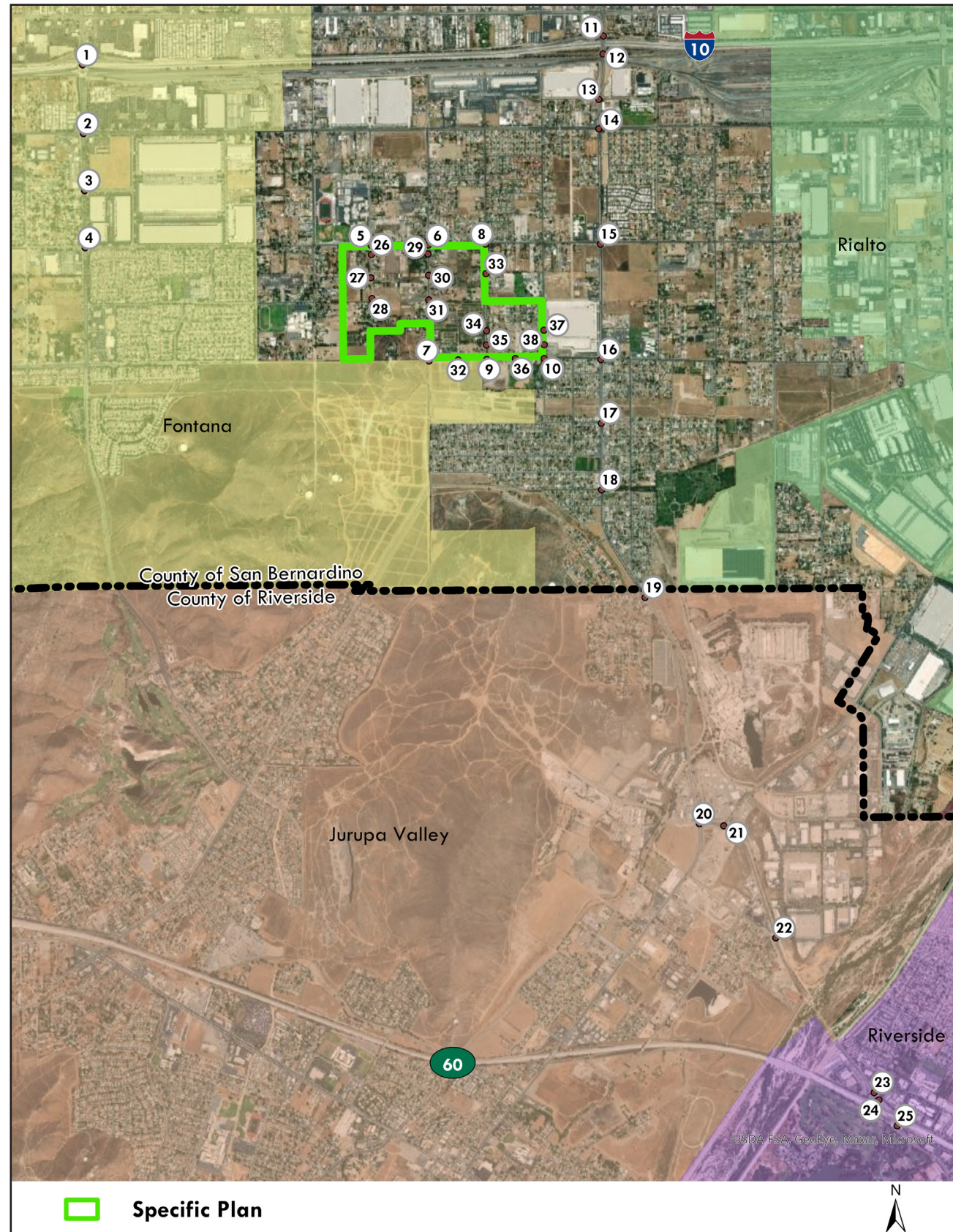
Maximum Reasonable Development Total AM Assignment (A)



Maximum Reasonable Development Total AM Assignment (B)

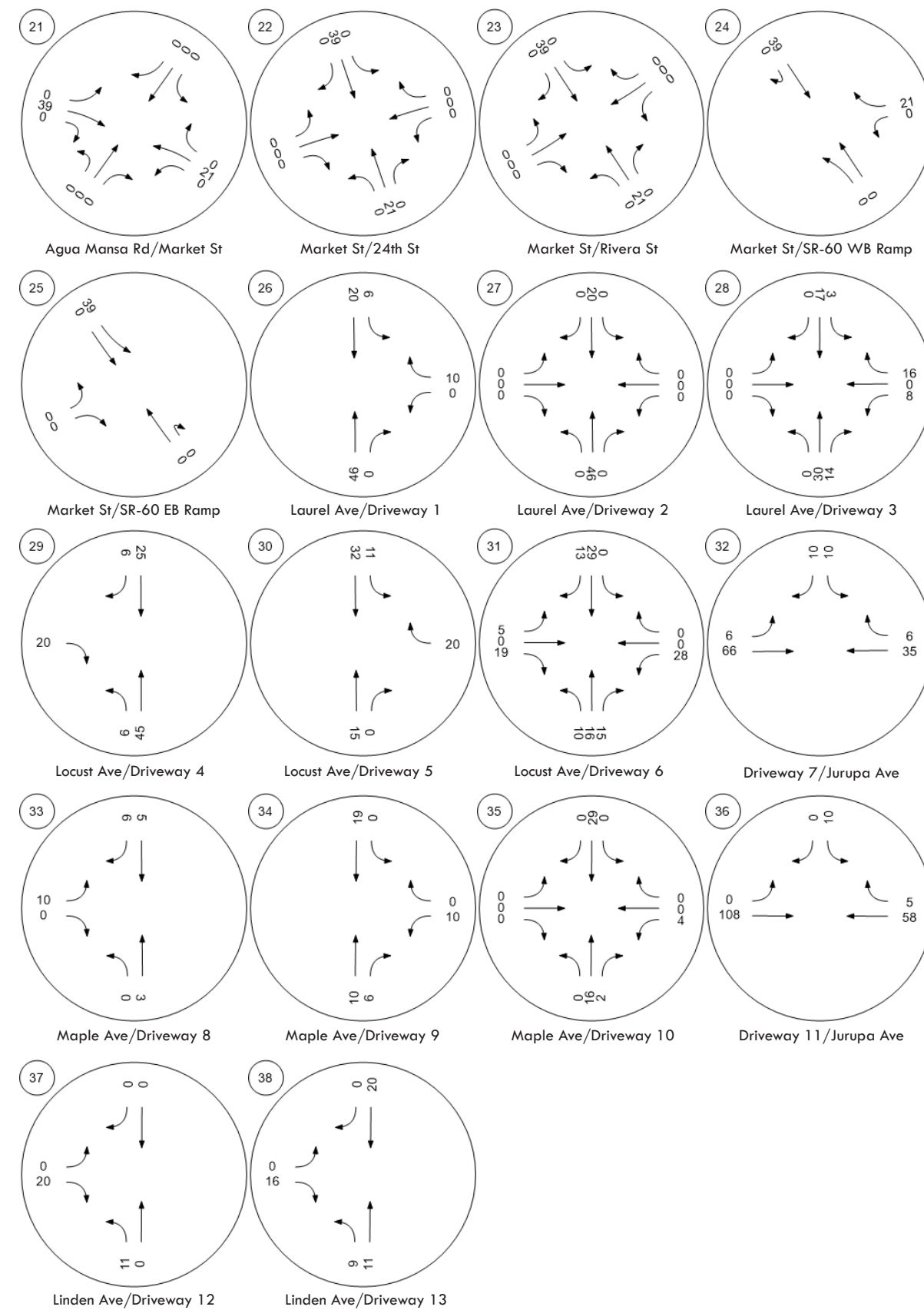
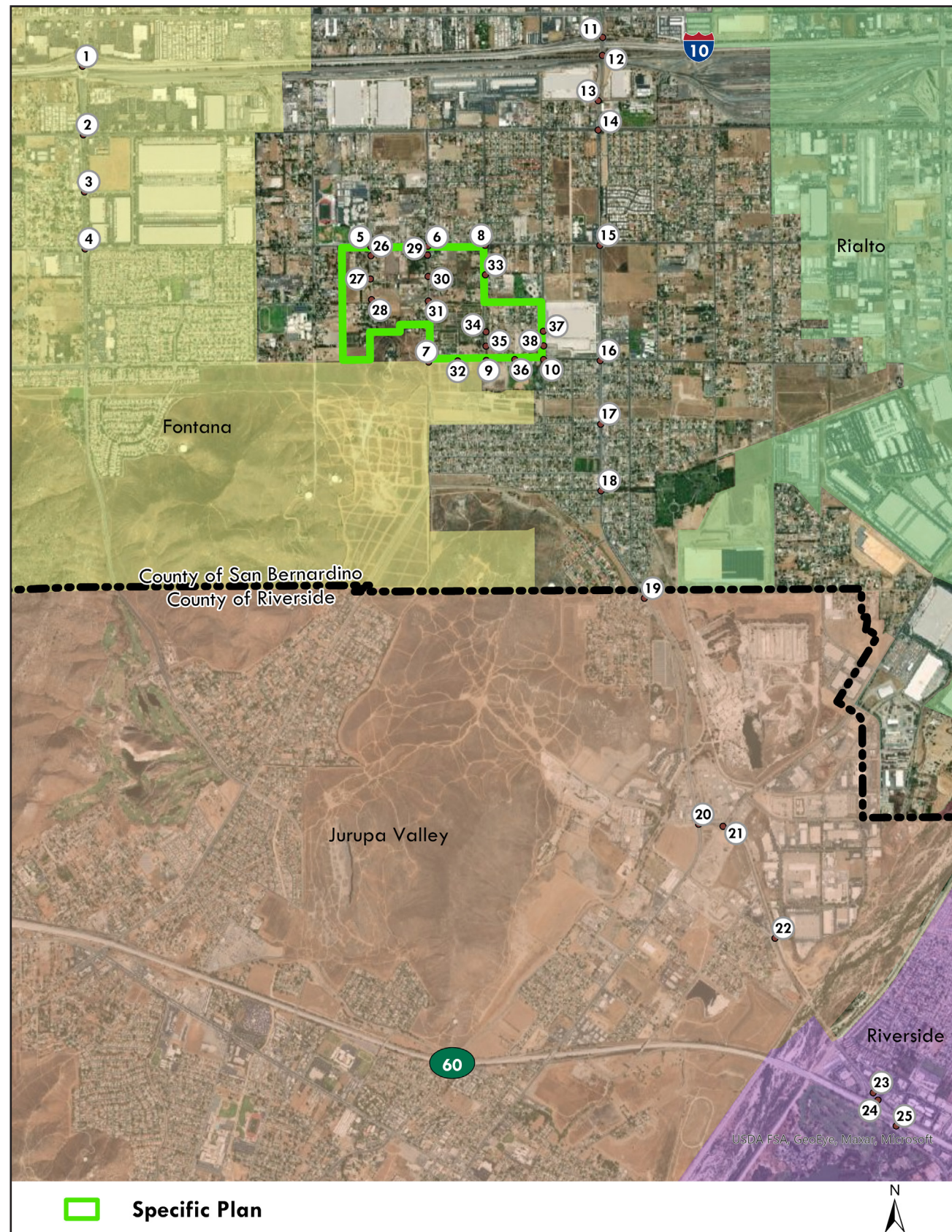


Maximum Reasonable Development Total PM Assignment (A)

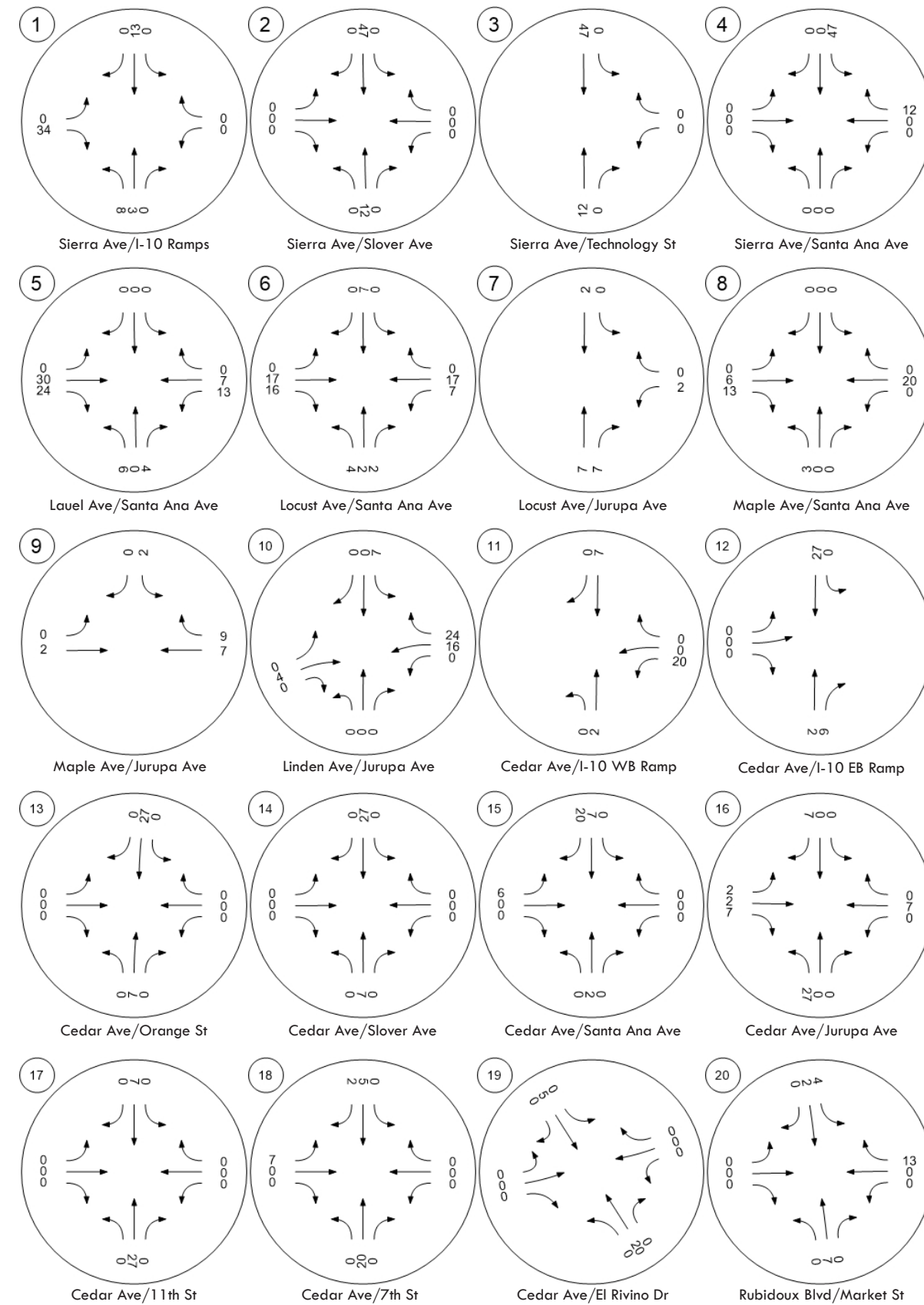
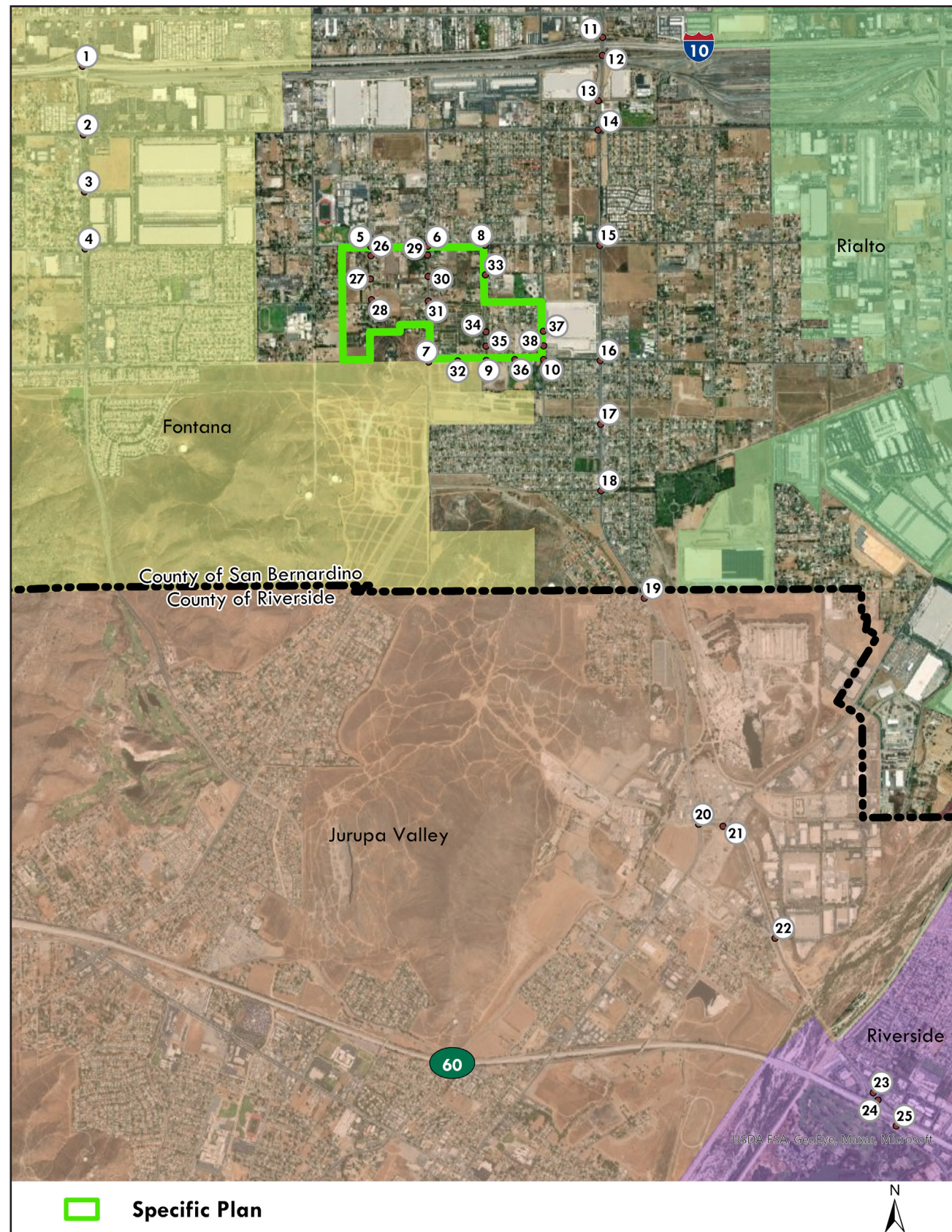




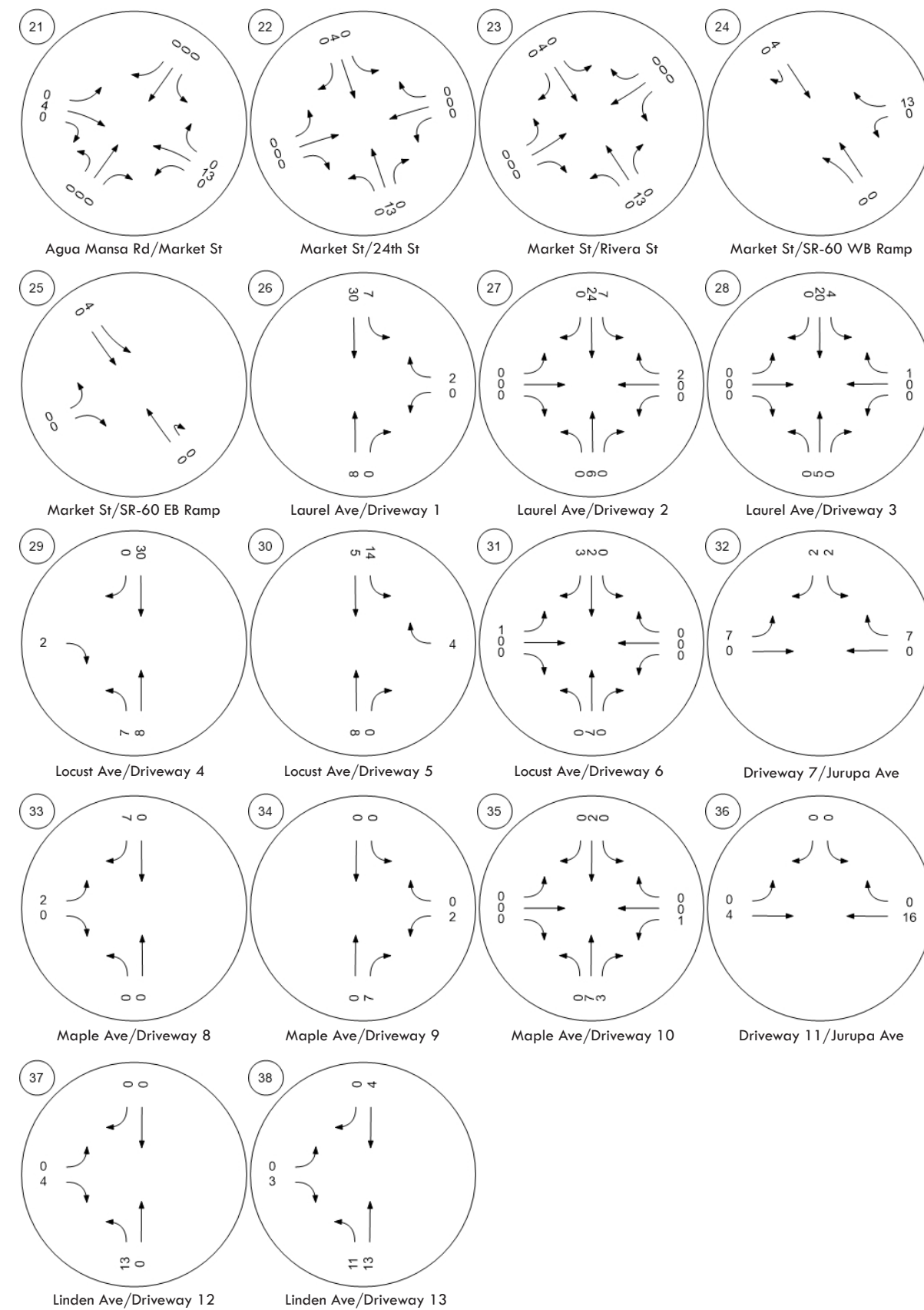
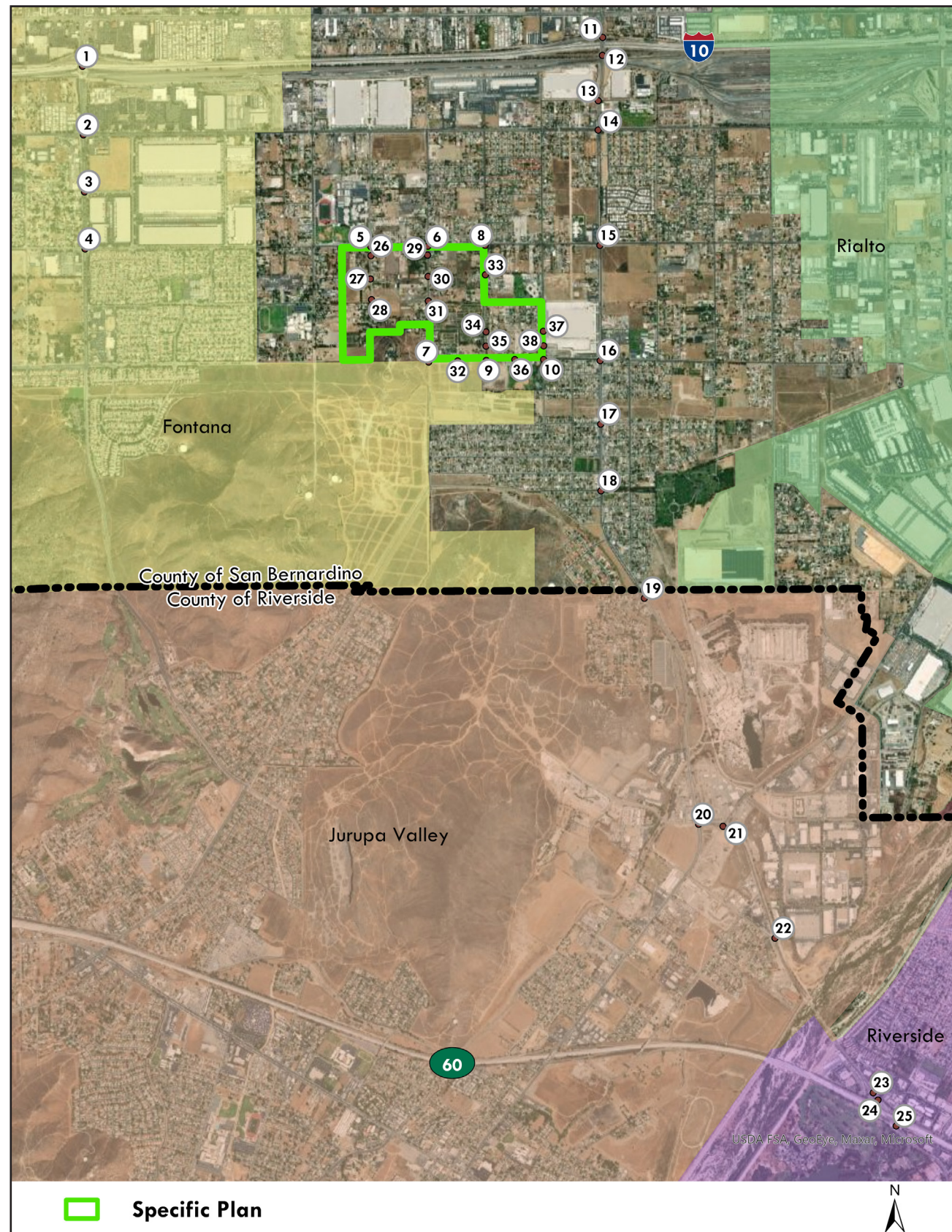
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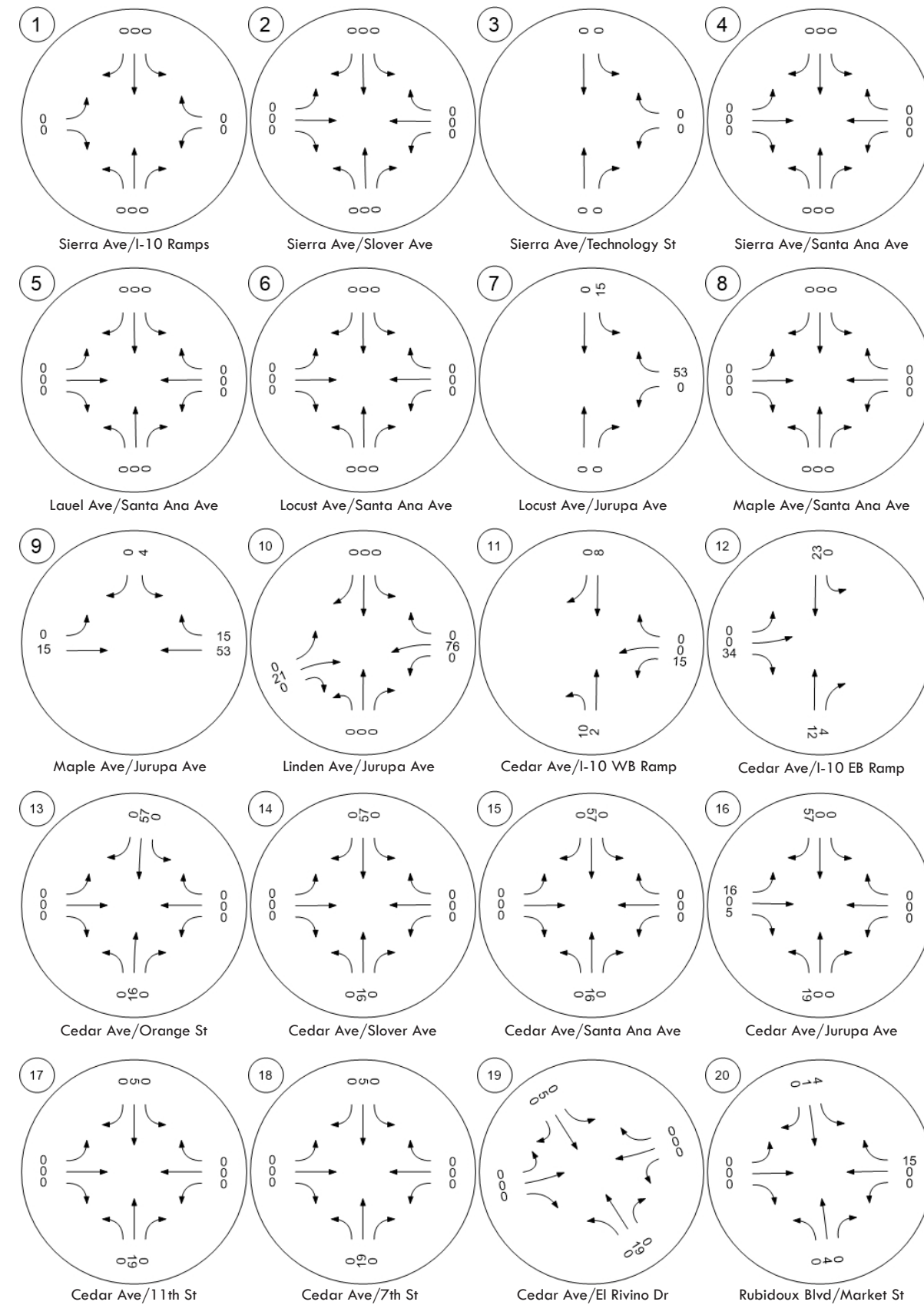
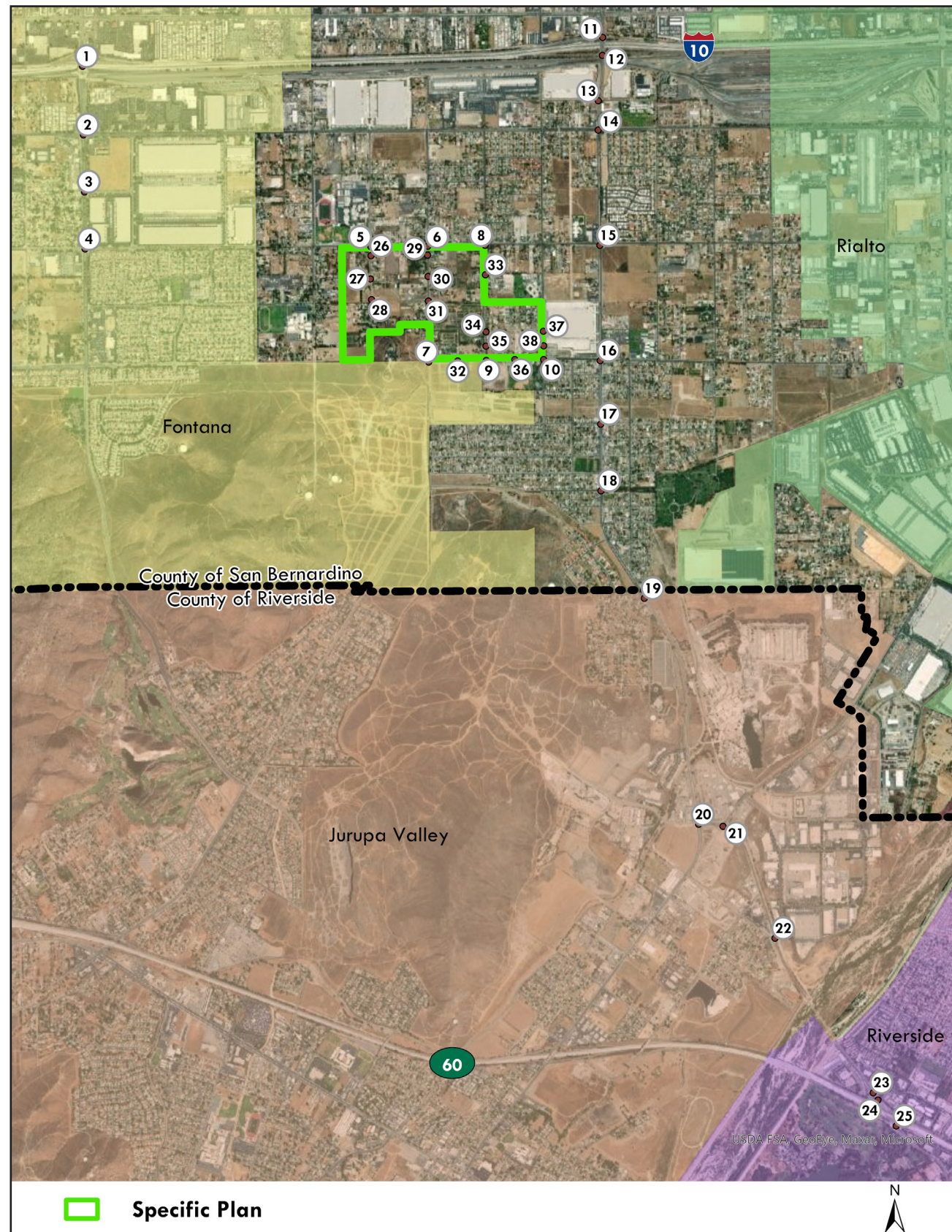
Proposed Industrial Business Park Development Automobile AM Assignment (A)



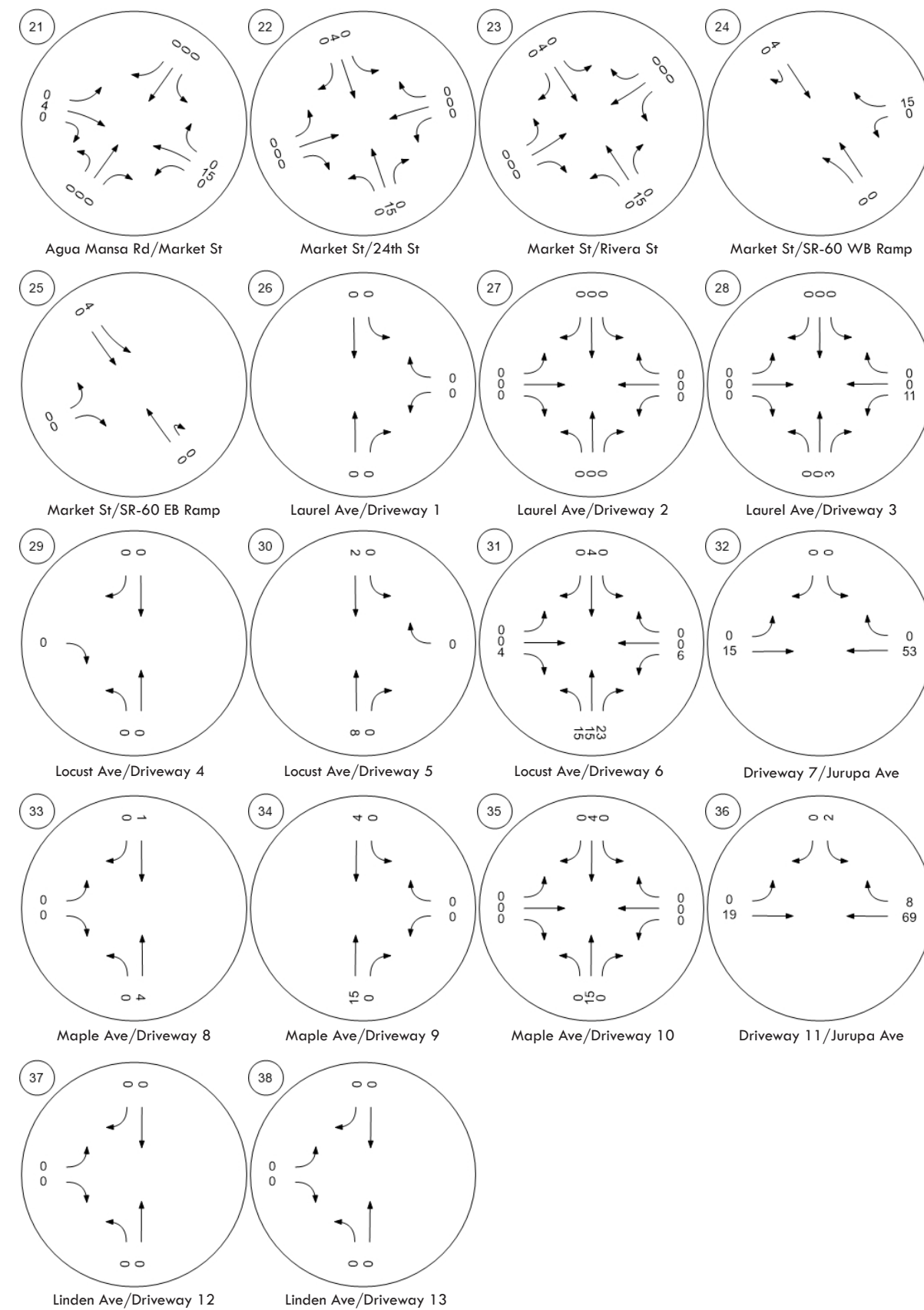
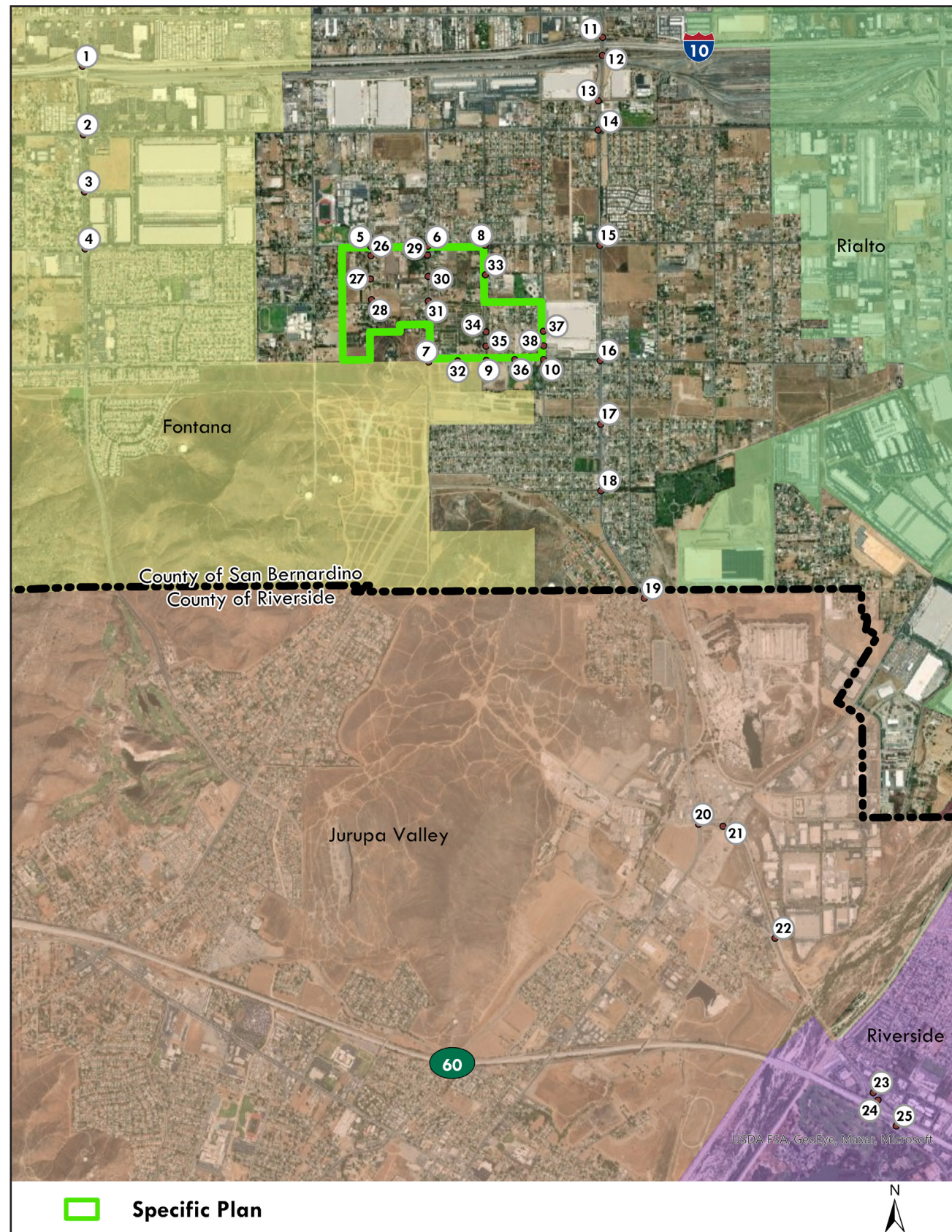
Proposed Industrial Business Park Development Automobile AM Assignment (B)



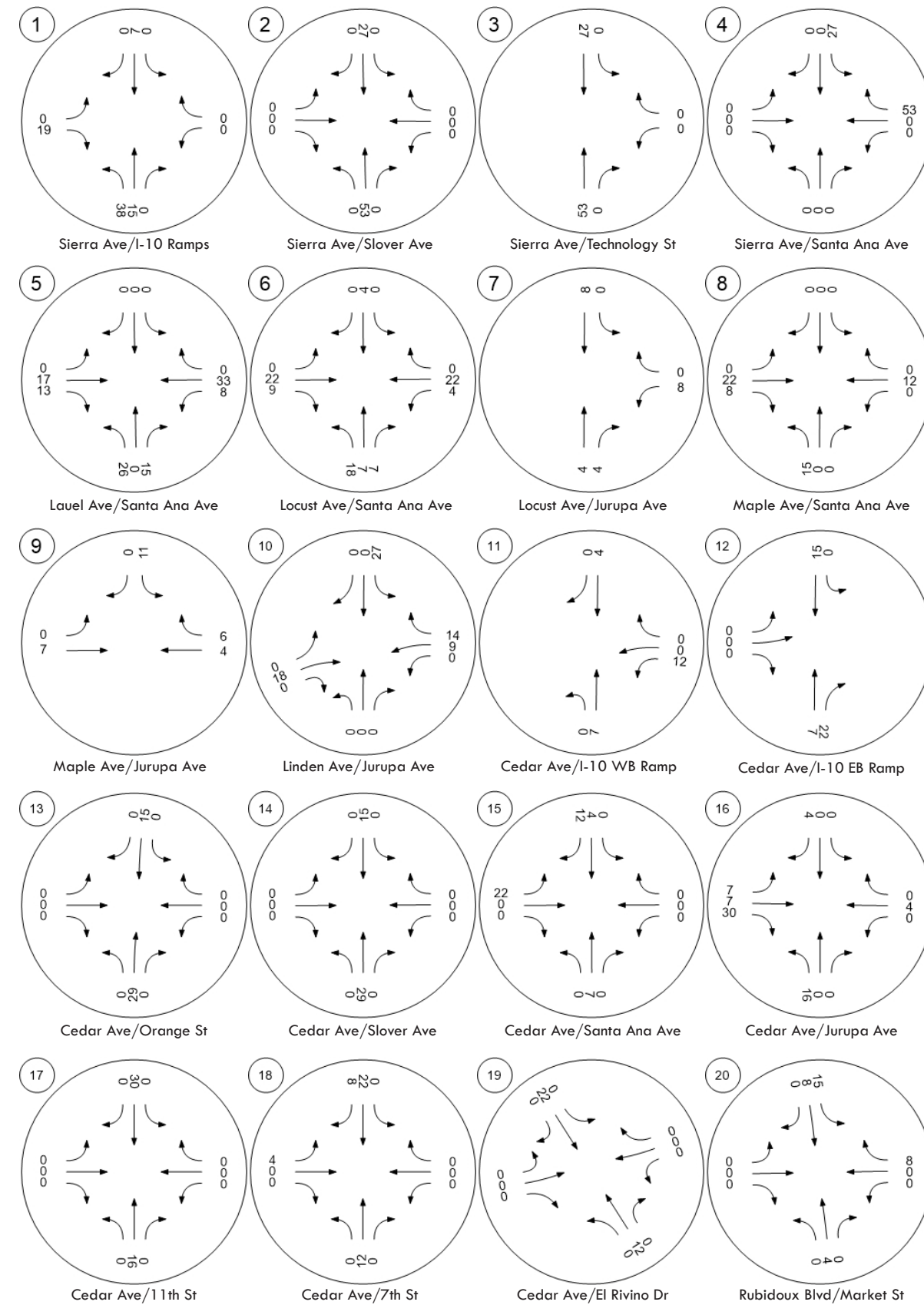
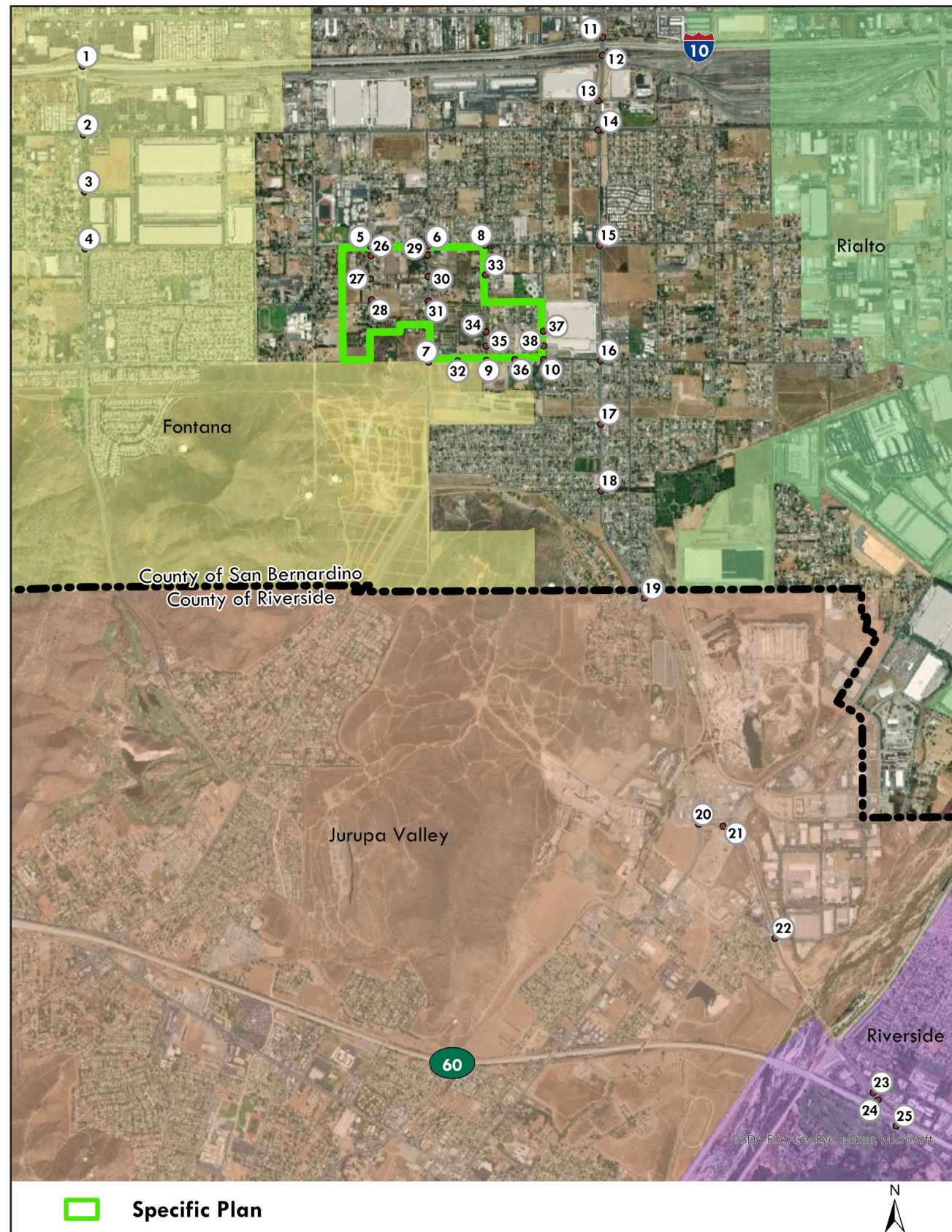
Proposed Industrial Business Park Development Truck AM Assignment (A)



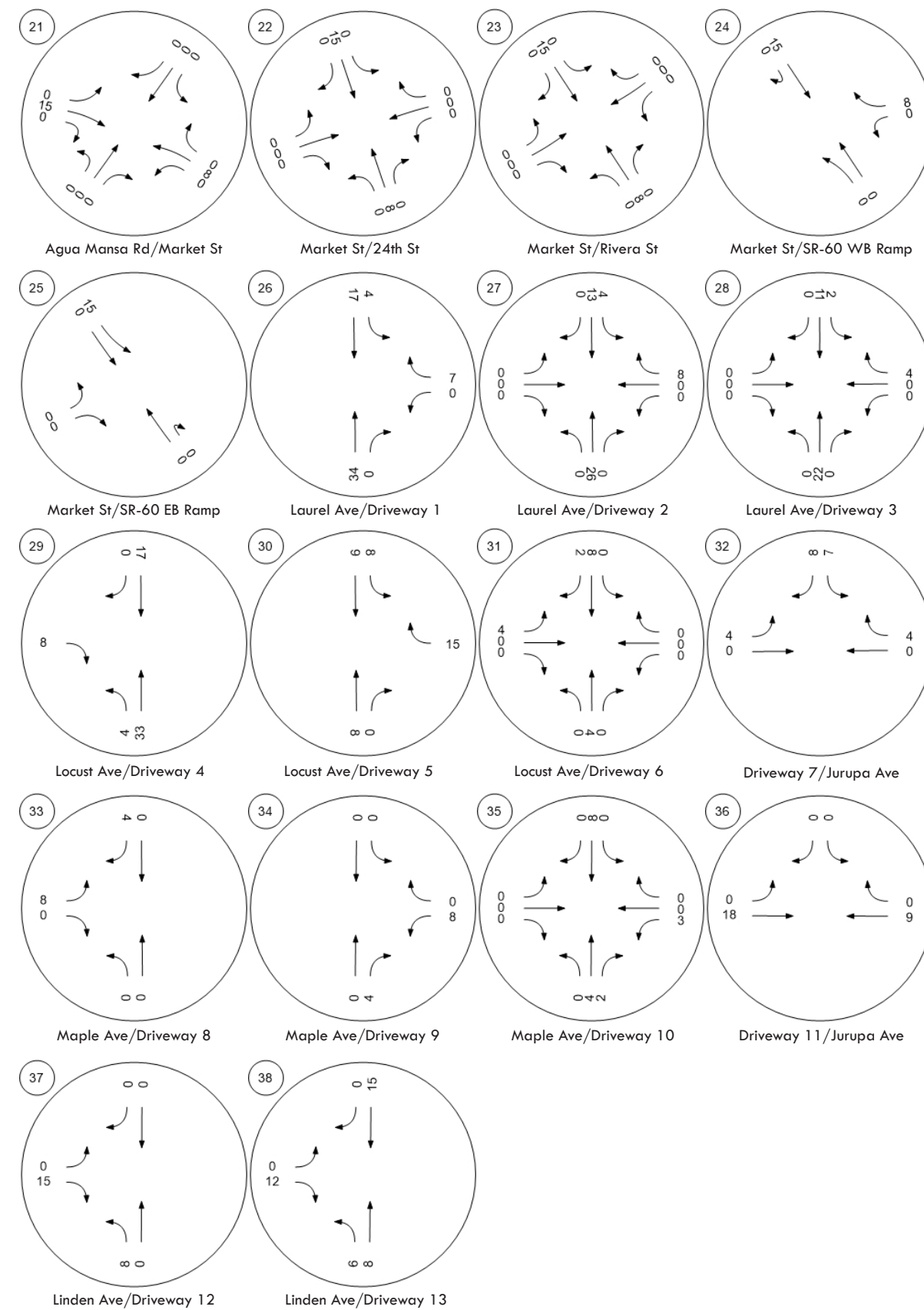
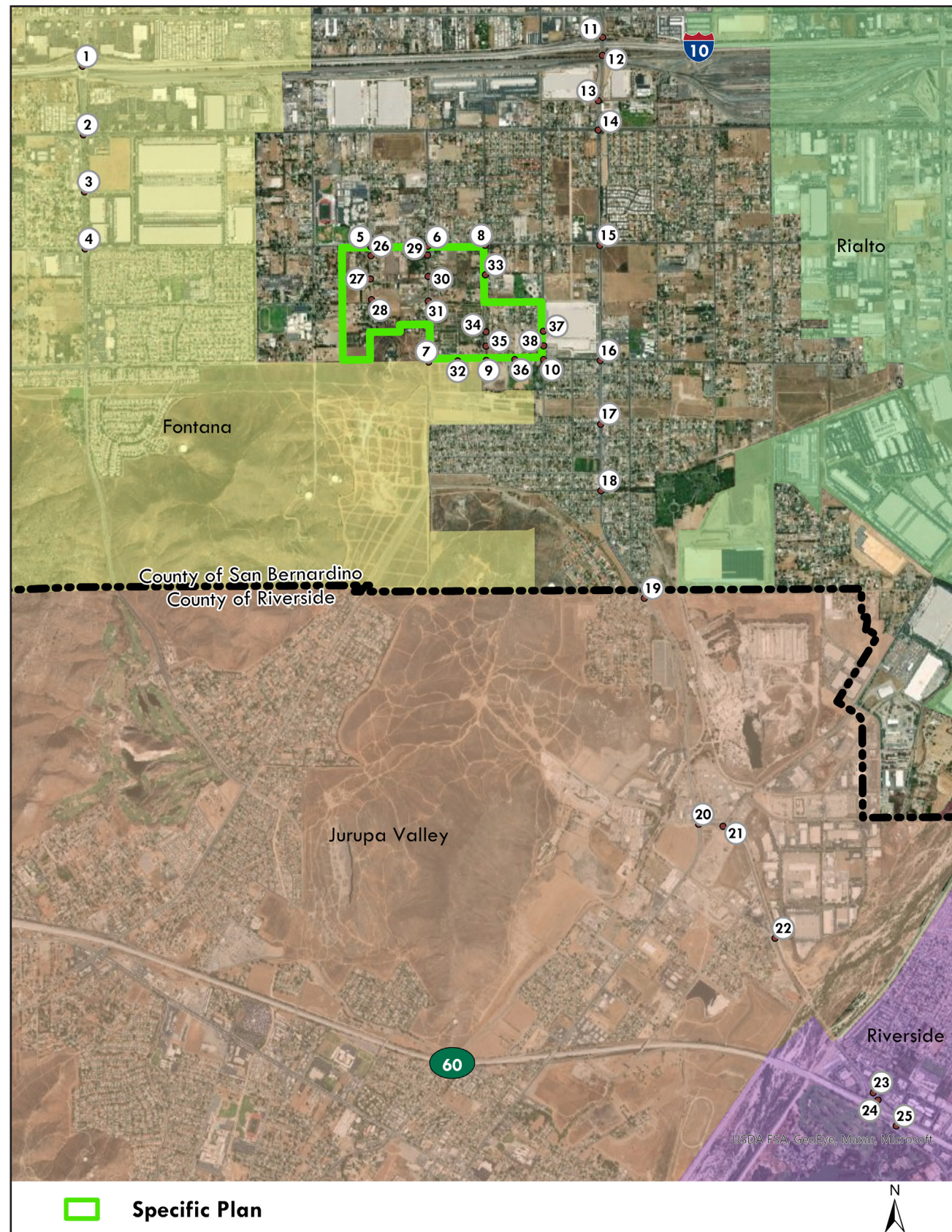
Proposed Industrial Business Park Development Truck AM Assignment (B)



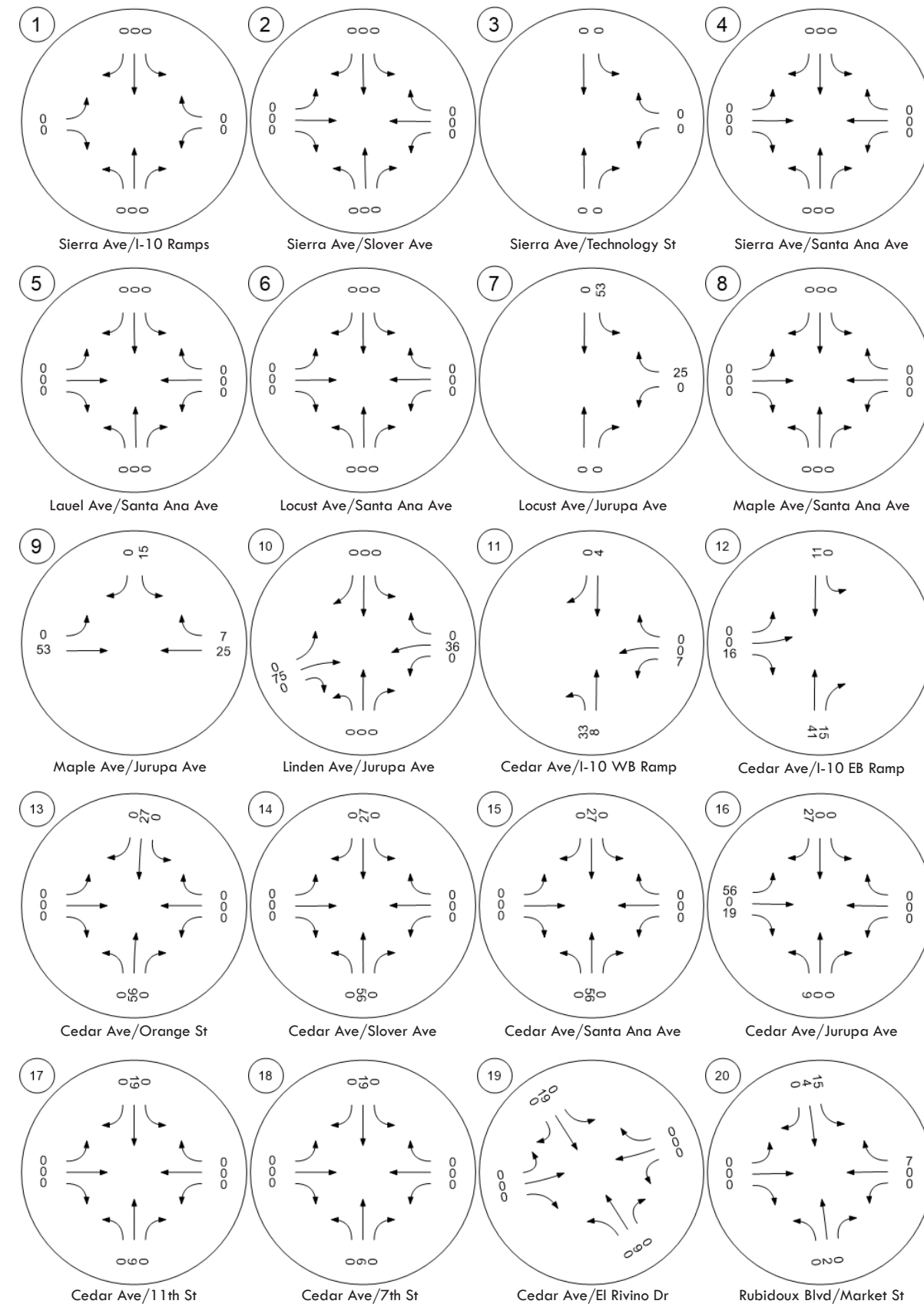
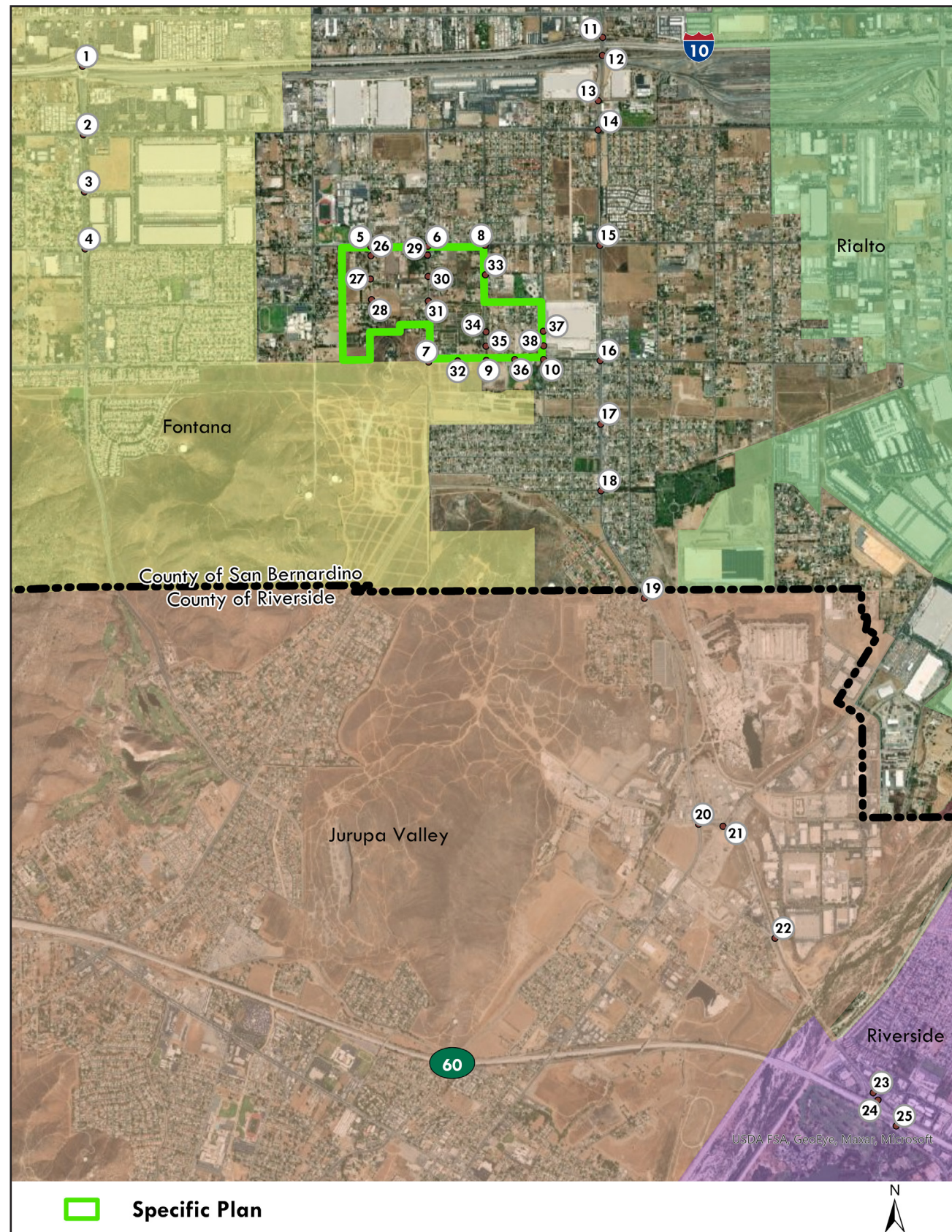
Proposed Industrial Business Park Development Automobile PM Assignment (A)



Proposed Industrial Business Park Development Automobile PM Assignment (B)

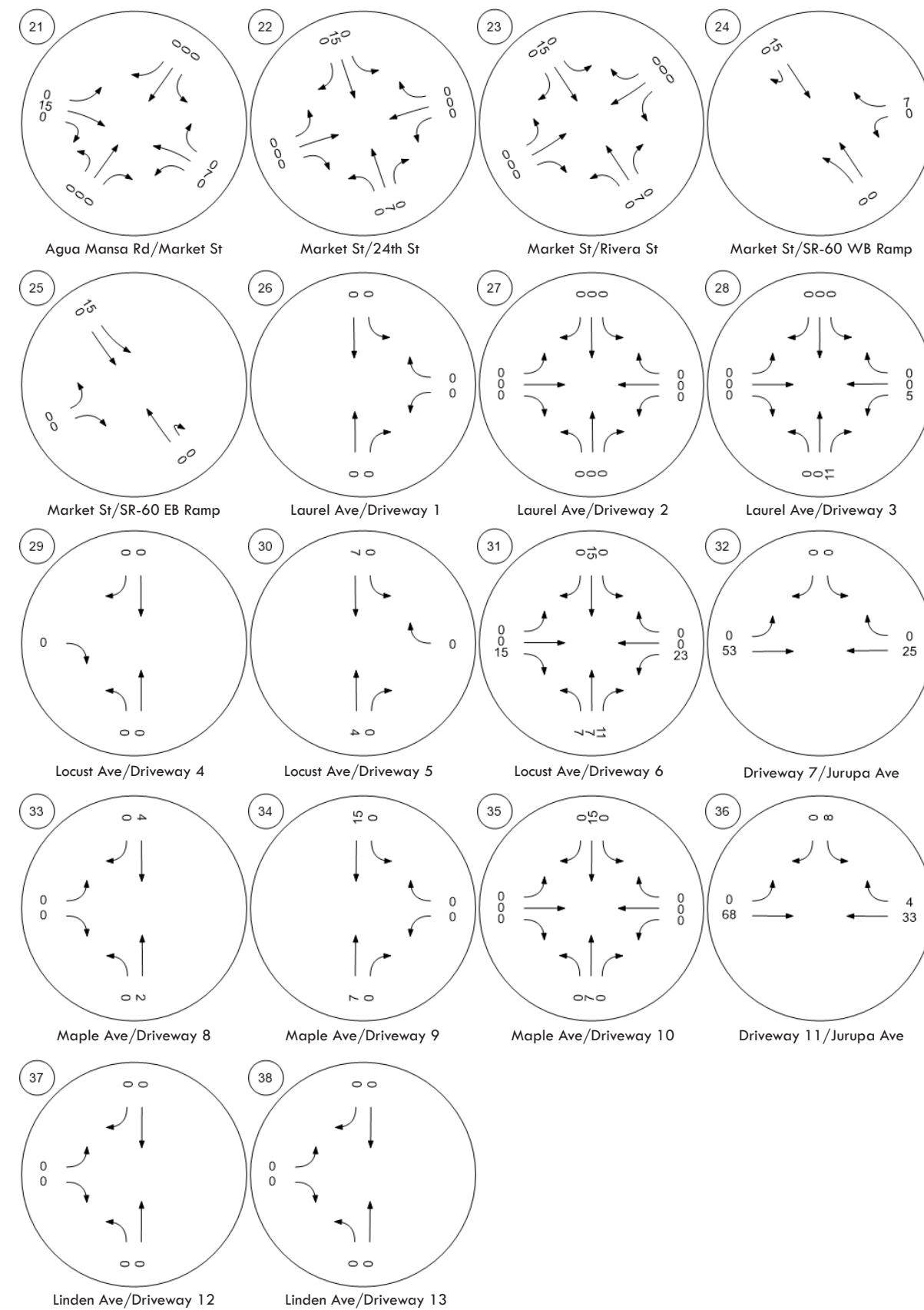
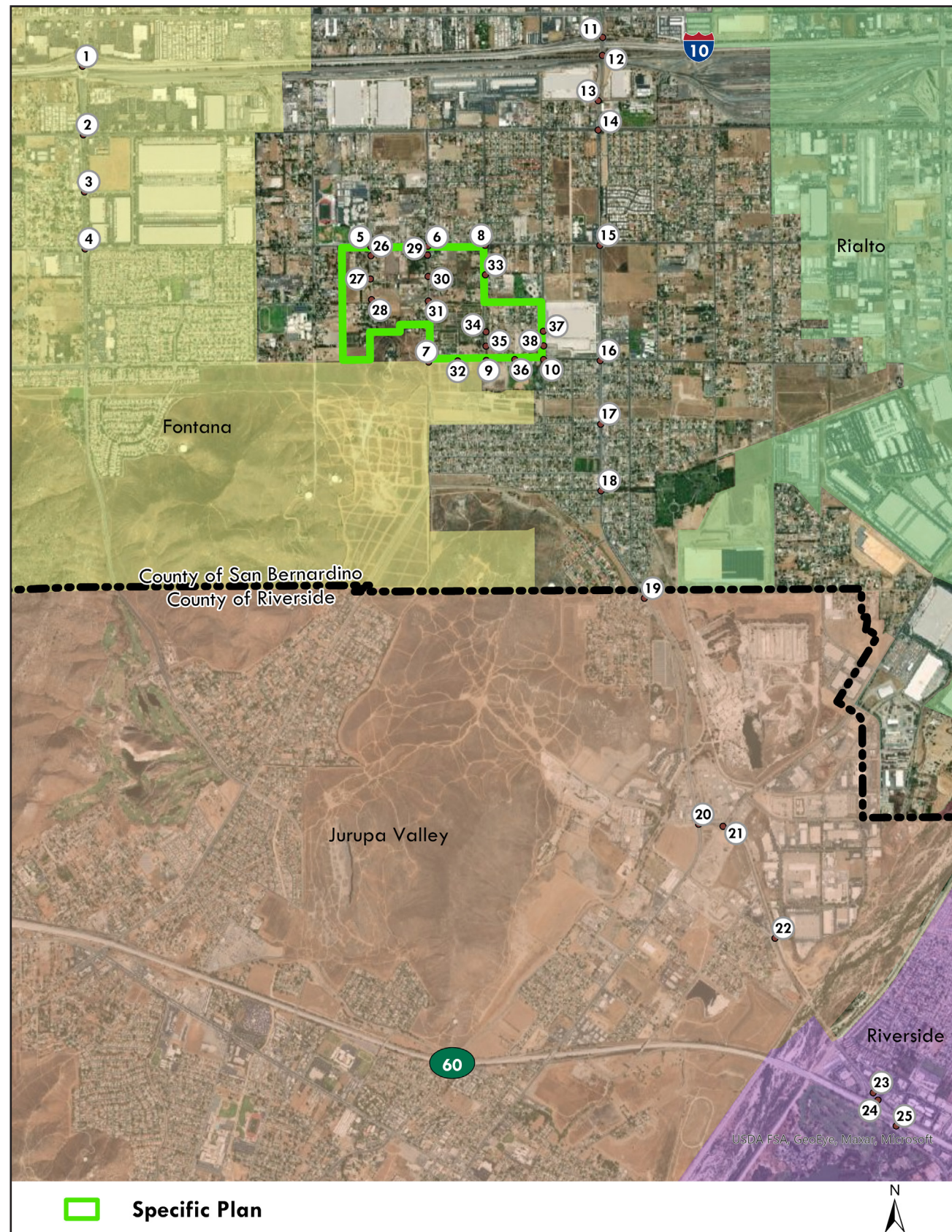


Proposed Industrial Business Park Development Truck PM Assignment (A)





Proposed Industrial Business Park Development Truck PM Assignment (B)



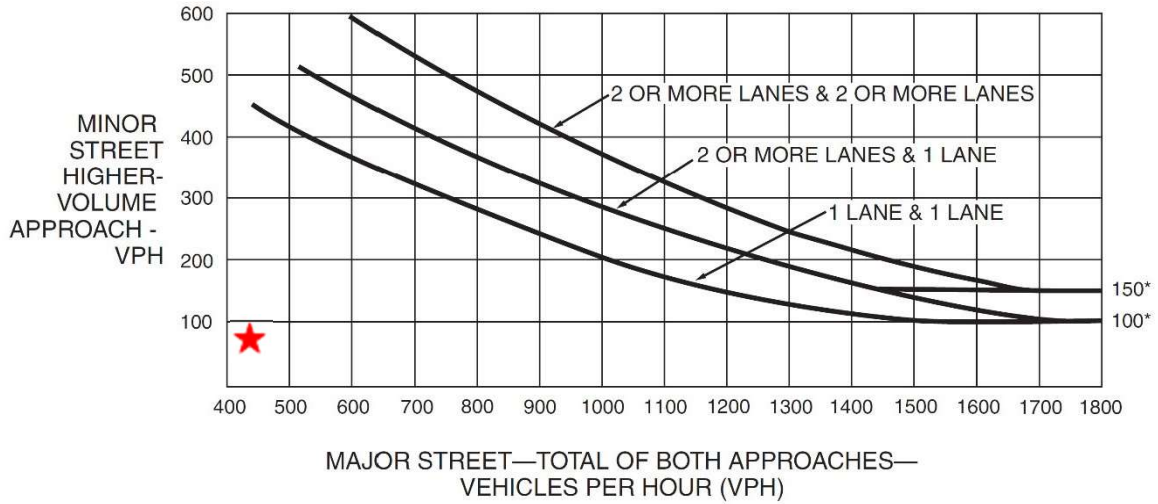
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*APPENDIX F – SIGNAL WARRANTS*

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Locust Ave/Jurupa Ave  
 Existing AM Peak Hour  
 Minor Street Approach - 74 vehicles  
 Major Street (Both Approaches) – 446 vehicles  
 Meets Warrant - No

**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Existing PM Peak Hour  
 Minor Street Approach - 86 vehicles  
 Major Street (Both Approaches) – 891 vehicles  
 Meets Warrant - No

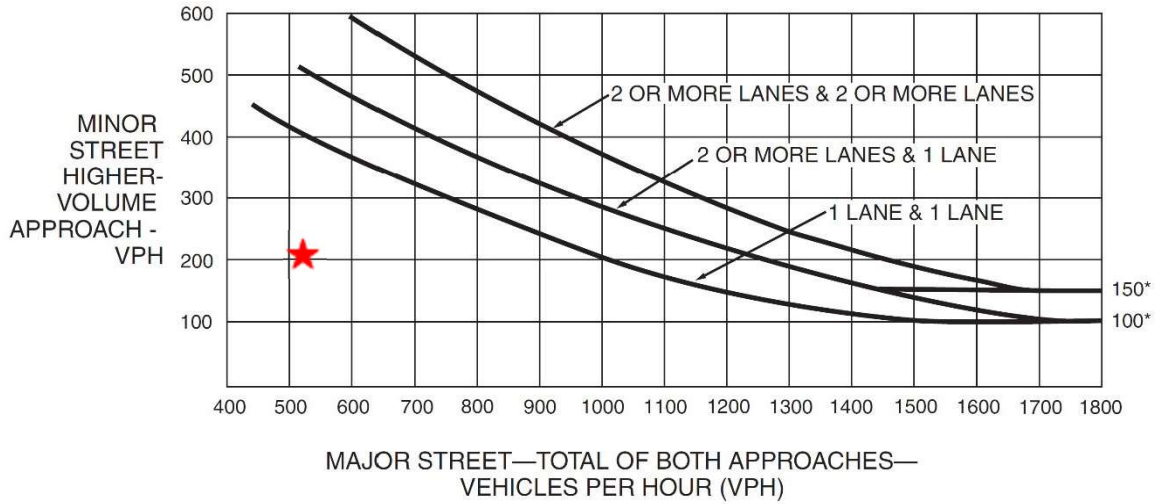
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Existing Plus Specific Plan AM Peak Hour  
 Minor Street Approach – 205 vehicles  
 Major Street (Both Approaches) – 514 vehicles  
 Meets Warrant - No

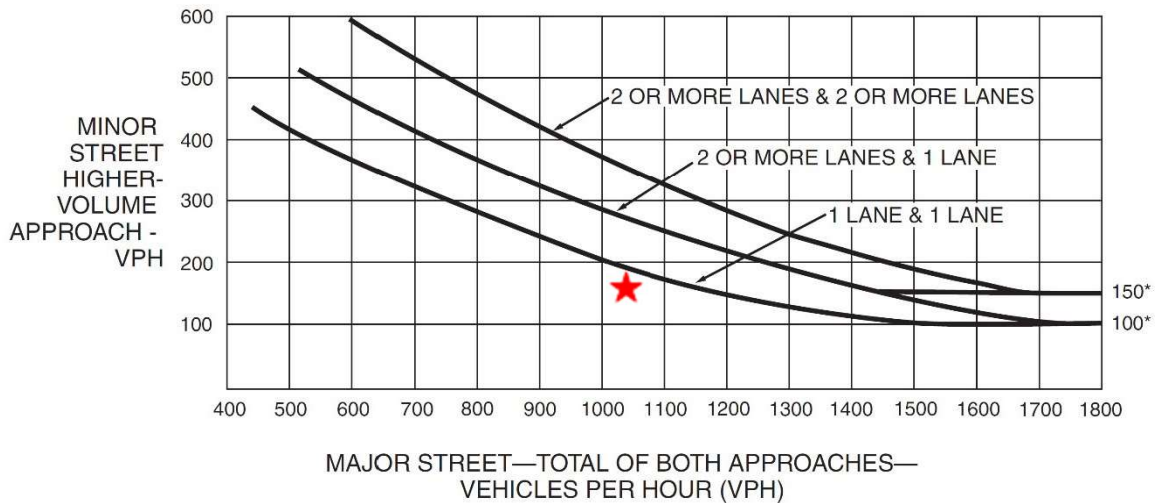
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Existing Plus Specific Plan PM Peak Hour  
 Minor Street Approach - 152 vehicles  
 Major Street (Both Approaches) – 1,044 vehicles  
 Meets Warrant - No

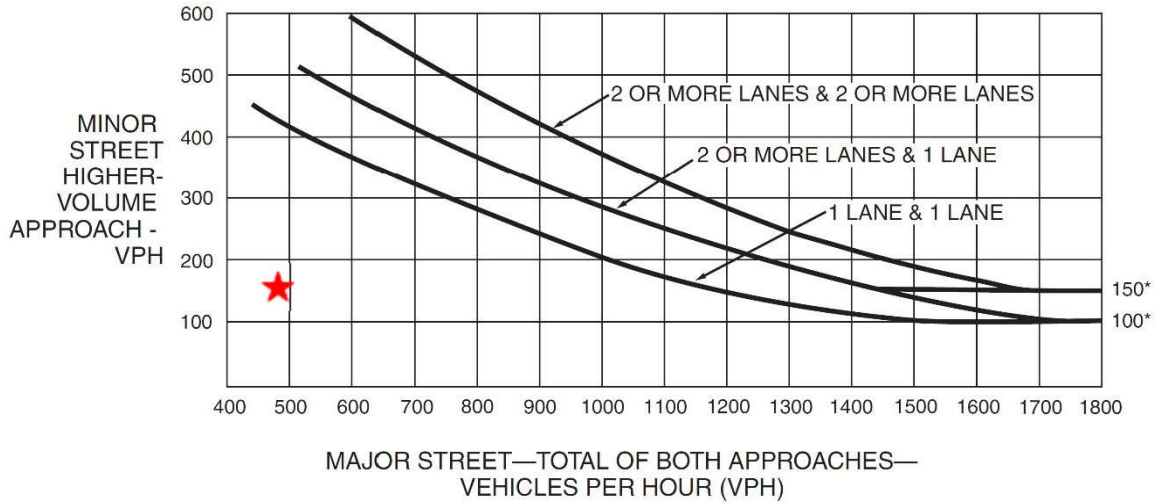
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Existing Plus Opening Year Development of Planning Area A Option 2 AM Peak Hour  
 Minor Street Approach – 146 vehicles  
 Major Street (Both Approaches) – 484 vehicles  
 Meets Warrant - No

**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Existing Plus Opening Year Development of Planning Area A Option 2 PM Peak Hour  
 Minor Street Approach - 131 vehicles  
 Major Street (Both Approaches) – 979 vehicles  
 Meets Warrant - No

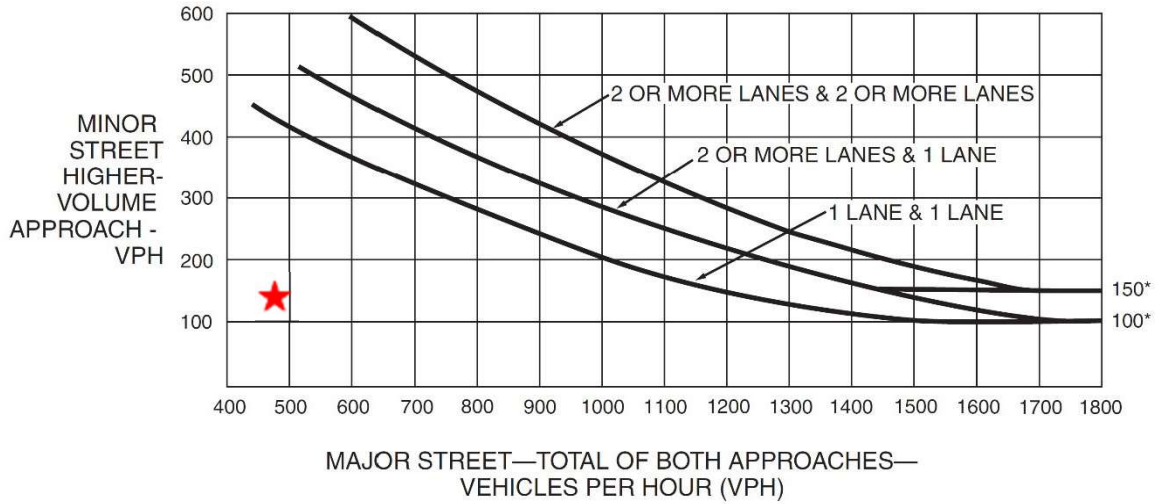
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Existing Plus Opening Year Development of Planning Area A Option 1 AM Peak Hour  
 Minor Street Approach – 129 vehicles  
 Major Street (Both Approaches) – 477 vehicles  
 Meets Warrant - No

**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Existing Plus Opening Year Development of Planning Area A Option 1 PM Peak Hour  
 Minor Street Approach - 119 vehicles  
 Major Street (Both Approaches) – 960 vehicles  
 Meets Warrant - No

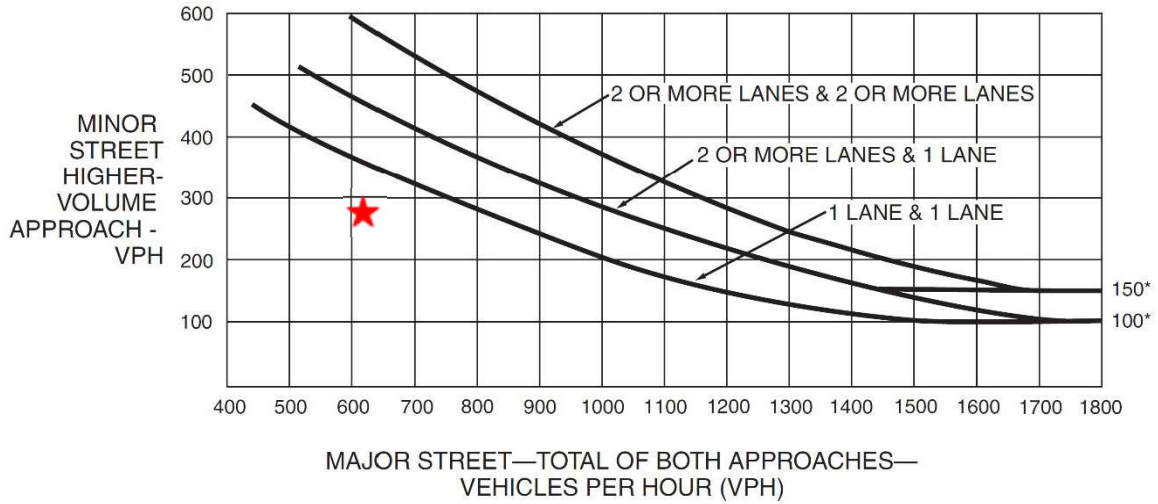
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Opening Year AM Peak Hour  
 Minor Street Approach – 274 vehicles  
 Major Street (Both Approaches) – 610 vehicles  
 Meets Warrant - No

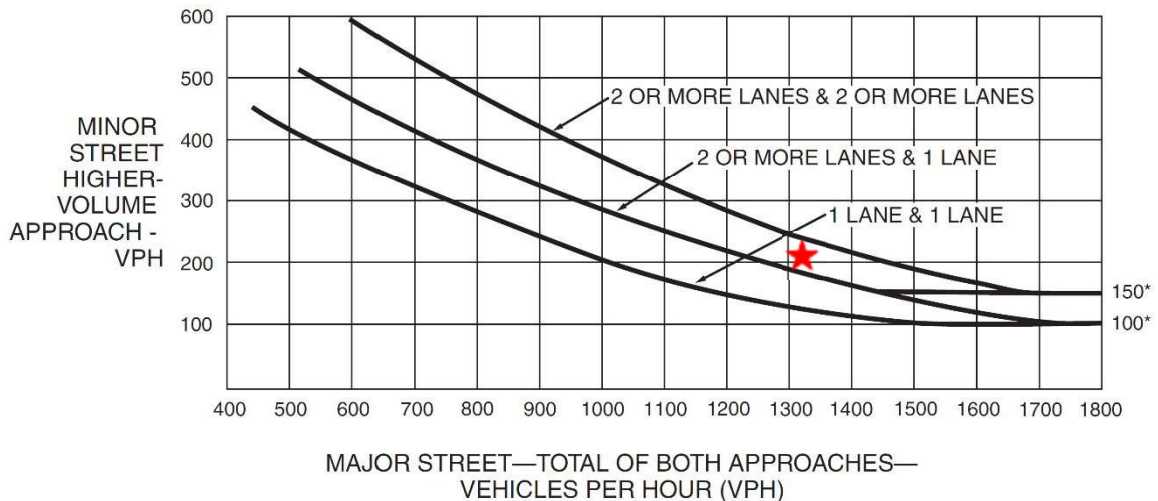
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Opening Year PM Peak Hour  
 Minor Street Approach - 208 vehicles  
 Major Street (Both Approaches) – 1,327 vehicles  
 Meets Warrant - Yes

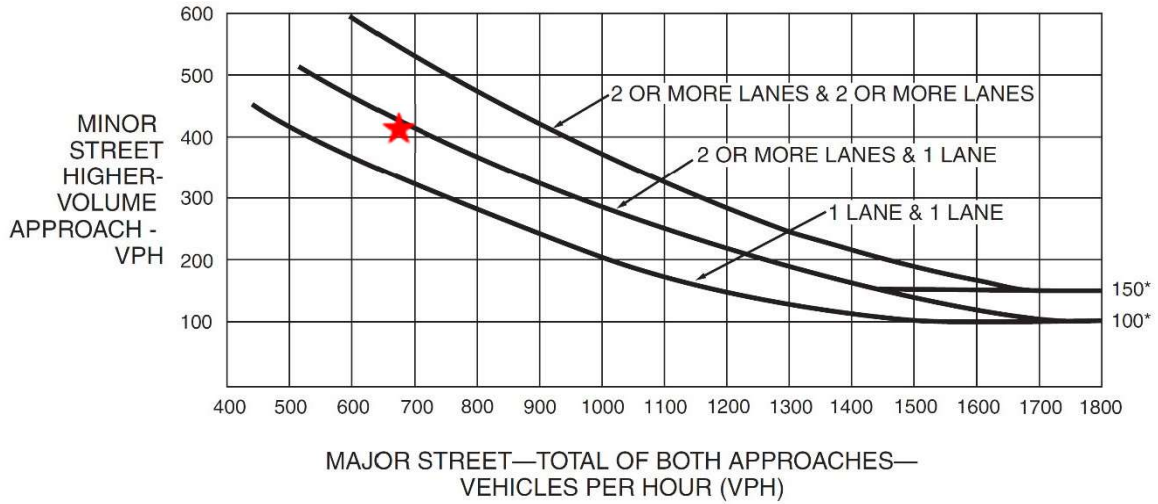
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Opening Year Plus Specific Plan AM Peak Hour  
 Minor Street Approach – 421 vehicles  
 Major Street (Both Approaches) – 677 vehicles  
 Meets Warrant - Yes

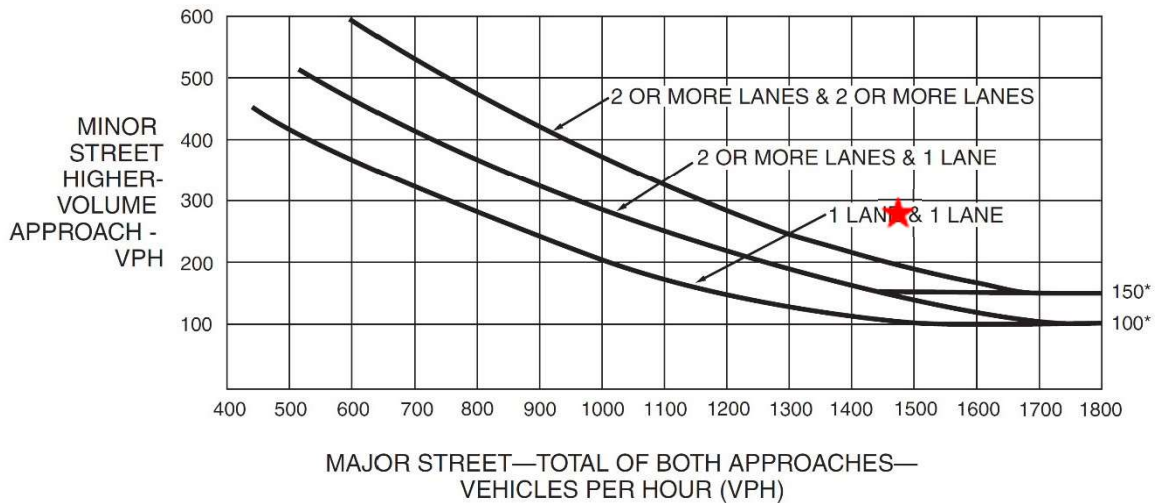
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Opening Year Plus Specific Plan PM Peak Hour  
 Minor Street Approach - 274 vehicles  
 Major Street (Both Approaches) – 1,480 vehicles  
 Meets Warrant - Yes

**Figure 4C-3. Warrant 3, Peak Hour**

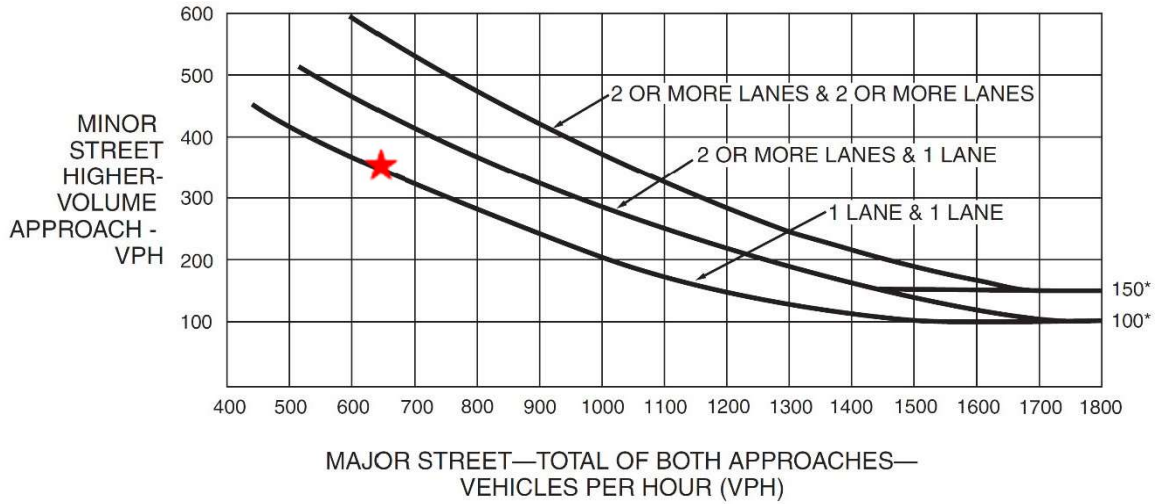


\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.



Locust Ave/Jurupa Ave  
 Opening Year Plus Opening Year Development of Planning Area A Option 2 AM Peak Hour  
 Minor Street Approach – 355 vehicles  
 Major Street (Both Approaches) – 648 vehicles  
 Meets Warrant - Yes

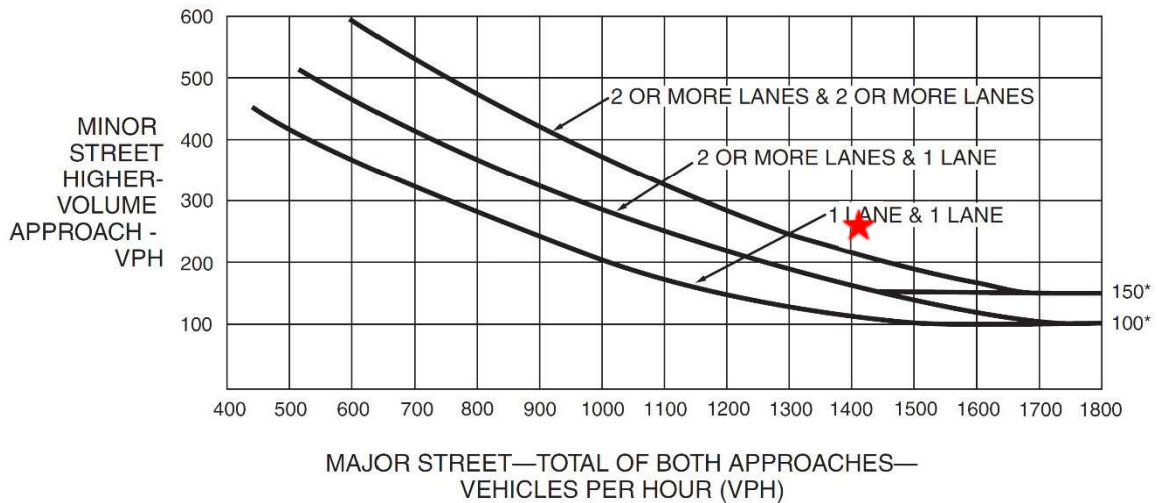
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Opening Year Plus Opening Year Development of Planning Area A Option 2 PM Peak Hour  
 Minor Street Approach - 253 vehicles  
 Major Street (Both Approaches) – 1,413 vehicles  
 Meets Warrant - Yes

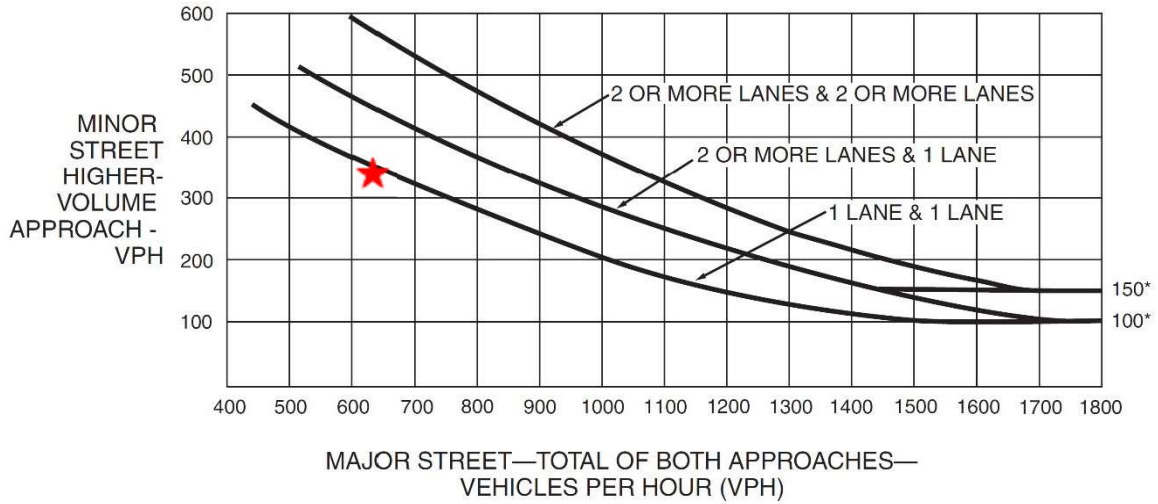
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Opening Year Plus Opening Year Development of Planning Area A Option 1 AM Peak Hour  
 Minor Street Approach – 334 vehicles  
 Major Street (Both Approaches) – 640 vehicles  
 Meets Warrant - Yes

**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 Opening Year Plus Opening Year Development of Planning Area A Option 1 PM Peak Hour  
 Minor Street Approach - 241 vehicles  
 Major Street (Both Approaches) – 1,395 vehicles  
 Meets Warrant - Yes

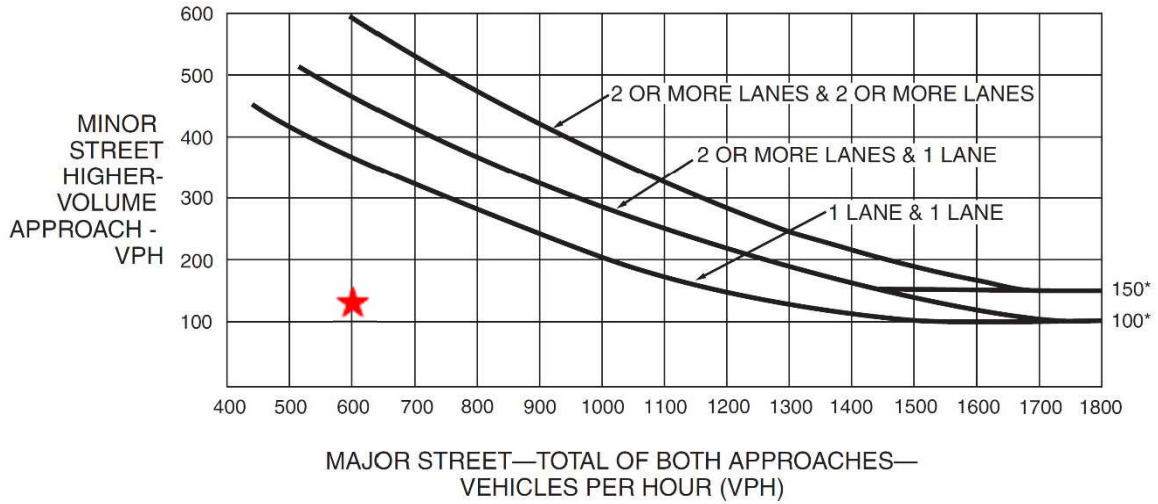
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 2040 AM Peak Hour  
 Minor Street Approach – 134 vehicles  
 Major Street (Both Approaches) – 599 vehicles  
 Meets Warrant - No

**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 2040 PM Peak Hour  
 Minor Street Approach - 368 vehicles  
 Major Street (Both Approaches) – 2,623 vehicles  
 Meets Warrant - Yes

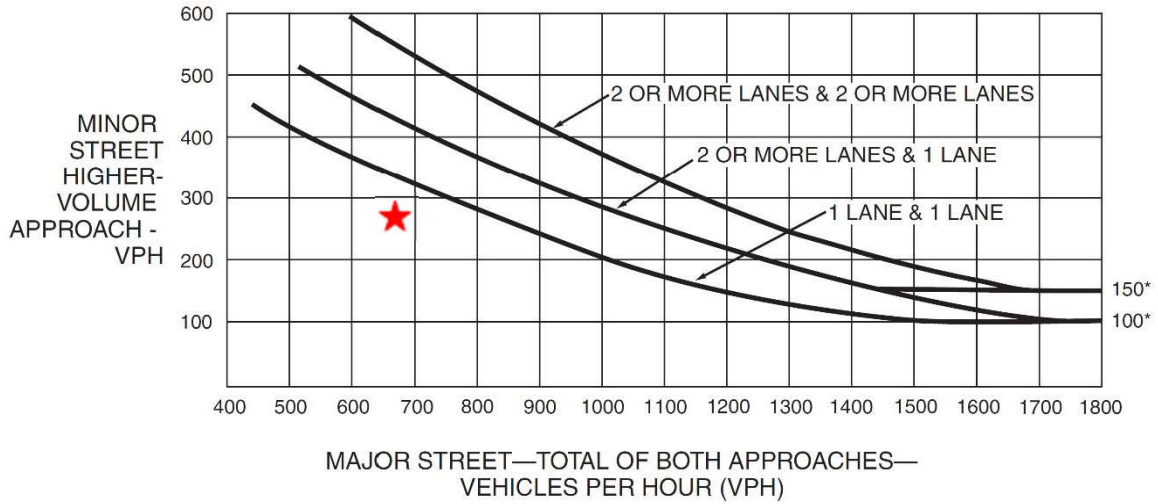
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 2040 Plus Specific Plan AM Peak Hour  
 Minor Street Approach – 265 vehicles  
 Major Street (Both Approaches) – 667 vehicles  
 Meets Warrant - No

**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 2040 Plus Specific Plan PM Peak Hour  
 Minor Street Approach - 434 vehicles  
 Major Street (Both Approaches) – 2,776 vehicles  
 Meets Warrant - Yes

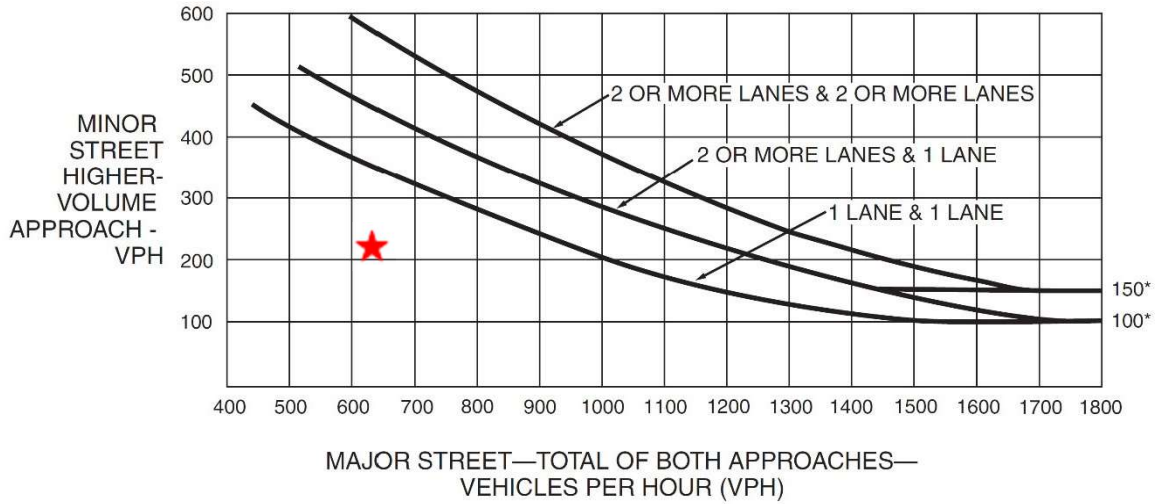
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 2040 Plus Opening Year Development of Planning Area A Option 2 AM Peak Hour  
 Minor Street Approach – 206 vehicles  
 Major Street (Both Approaches) – 637 vehicles  
 Meets Warrant - No

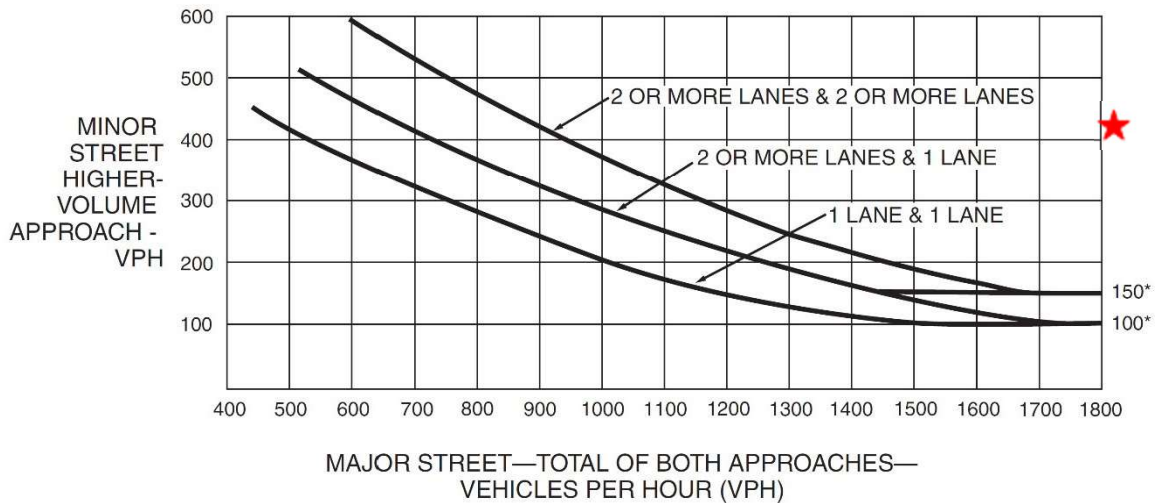
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 2040 Plus Opening Year Development of Planning Area A Option 2 PM Peak Hour  
 Minor Street Approach - 413 vehicles  
 Major Street (Both Approaches) – 2,711 vehicles  
 Meets Warrant - Yes

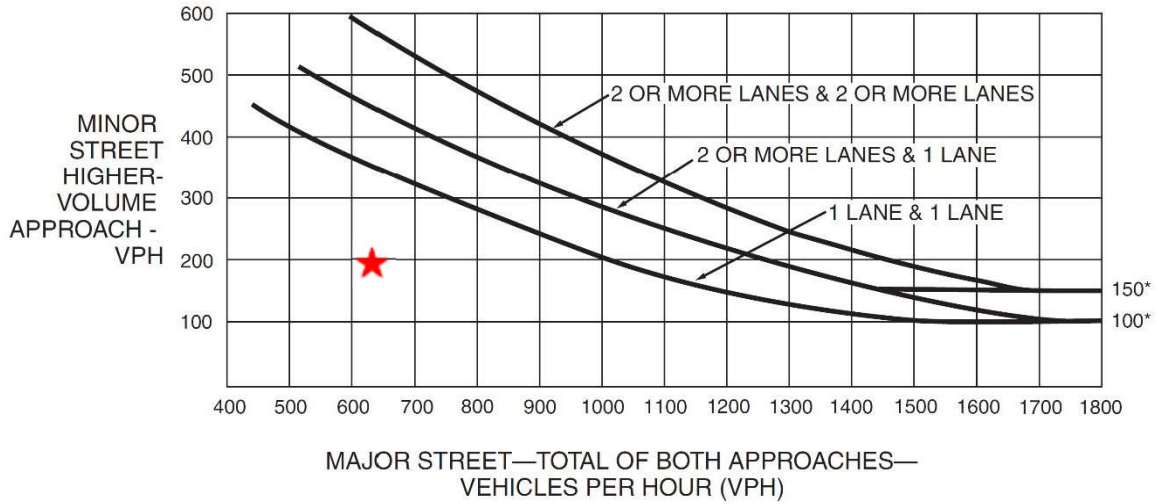
**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 2040 Plus Opening Year Development of Planning Area A Option 1 AM Peak Hour  
 Minor Street Approach – 189 vehicles  
 Major Street (Both Approaches) – 630 vehicles  
 Meets Warrant - No

**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Locust Ave/Jurupa Ave  
 2040 Plus Opening Year Development of Planning Area A Option 1 PM Peak Hour  
 Minor Street Approach - 401 vehicles  
 Major Street (Both Approaches) – 2,692 vehicles  
 Meets Warrant - Yes

**Figure 4C-3. Warrant 3, Peak Hour**



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.